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The promise of the earlier rains in California has been followed by an abundant fall, and the two years' drought which worked so much injury and loss to the State has been broken. Moreover, heavy snowfalls have been reported in the mountains, securing a supply of water to the streams during the summer. The prospects are for a good supply of water for hydraulic and placer mining and abundance for the quartz mines, many of which were last season obliged to shut down because they could not get enough water to run their mills; while those which depended on water power were altogether at a stand-still. The consequence will be a largely increased production of gold this year, and the State will recover the loss of output shown in 1898. The prospect for the California mines is an excellent one and we hope that it will be plentifully realized.

Notwithstanding the prolonged strike of the Welsh coal miners last year, the production of coal in Great Britain showed very little change from that of 1897. The total reported for 1898 was 202,042,300 long tons, against 202,119,200 tons in 1897; the decrease being only 76,900 tons, or 0.04 per cent. The decrease in Wales was 5,560,600 tons, but this was more than made up by increases from the English and Scotch collieries.

Of the total production in 1898 there were 36,546,152 tons, or 18.1 per cent., exported, Great Britain fully maintaining its lead as a coal exporting nation. The country also maintains its lead as the first coal producer in the world. The total above given in long tons is equivalent to 226,287,264 short tons, while the United States output was some 16,000,000 tons below that of its rival. The large production in this country so far this year promises to put us on an equality with Great Britain in 1899, and possibly ahead of that country.

The high price of copper and the boom in the market for copper stocks combined are bringing forward, as might be expected, a great number of copper properties, or at least of so-called copper properties. Some of these are legitimate mining propositions, but the great majority are of very indefinite value, or of no value at all. The advertising columns of the papers are just now full of offers to sell stock, and the mails are flooded with prospectuses of very similar character. As a rule, the more expansive and flowery these are, the more they are to be distrusted. The usual formula is to set forth the profits of copper mining, as exemplified by the Calumet & Hecla or the Anaconda, and then to describe a property which seems to derive its value from its neighborhood to or situation "on the same formation" with some well known mine. The extent to which "the same formation" is sometimes prolonged is a wonder to geologists.

The present is a good time for promoters, and they are taking full advantage of it. It is also a time when investors should scrutinize very carefully the propositions brought before them. The misfortune is that the conscienceless promoter who has no scruples about claiming everything for his property usually does better in boom times than the man who tries honestly to sell a property of real value.

We have received from the Joplin Club the following resolution, which was unanimously passed at a meeting held in Joplin, Mo., on March 22d:

"Resolved, That this club tenders its thanks to the Engineering and Mining Journal of New York for the publication of the Crossman drill chart and to R. P. Rothwell, the editor, for his editorial calling attention to the absolute fairness of the scale for the purchase of ore promulgated by the Missouri & Kansas Zinc Miners' Association, and that the secretary be instructed to notify Mr. Rothwell of the action of this club."

We have also received a letter from the Missouri & Kansas Zinc Miners' Association, which is given in another column. Our hearty thanks are due for these expressions of approval of our labors. The enterprising miners of the Joplin Region have built up an industry which has made their district at the present time one of the most nourishing in the country, with every indication of continued prosperity. They have developed an extensive deposit of valuable ores by hard and intelligent work, and the zinc industry of the world is now looking to them very largely for its future supplies of raw material, as is well shown by the demands made upon their production for export as well as for home consumption. The foreign zinc manufacturers are aware that the European deposits are at the best becoming more difficult and expensive to work each year, and their exhaustion is only a question of time. The probability is that in a few years our zinc mines will hold the same position with regard to supplying the world as our copper mines now do. We hope to chronicle a long period of prosperity for the Joplin Region in the future.

The continued increase in the gold production of the Transvaal, as shown by the statement given in our mining news columns last week, derives a good deal of interest and gives some promise of holding out through the current year from the fact that a fair share of it comes from

the new deep-level mines. The number of these which are producing is on the increase every month. There are now 44 deep-level companies operating on the Witwatersrand; the shafts owned by 19 of these have reached the reef, and in all of these development work is going on extensively. Ten companies have reached the stage of actual gold production, and three of four of these are already large producers.

The operations of these deep-level companies are generally on a large scale. Thus the Geldenhuis Deep—the first deep-level mine to become a producer—has 200 stamps at work; the Crown Deep has 200 stamps; the Rose Deep has 200, and is adding 60 more; and the Robinson Deep, which has reached the reef, but is not yet milling ore, purposes having 700 stamps in its mill.

Several of the 44 companies which are sinking shafts are in the second row of deep-levels. That is they are deeper-level mines as compared with the first row, which are deep-levels as compared with the outcrop or original mines. Thus the Simmer & Jack West is the deep-level of the Geldenhuis Deep, and the Jupiter is the deep-level of the Jumpers Deep. A few of the new mines are giving disappointing results, striking faulty or broken spots in the reef; but the majority of those which have reached ore are doing well.

WILLFUL OR INADVERTENT TRESPASS.

A decision just handed down from the United States Circuit Court of Appeals at St. Louis, which is of interest to miners, is that of the Percy Consolidated Mining Company vs. the Durant Mining Company, operating at Aspen, in Colorado. This was a case tried before Judge Hallet in the Federal Court at Denver, where the plaintiff alleged willful trespass, and claimed the value of the ore on the dump, free of cost of mining and underground transportation. The defendant's manager, Mr. Freeland, testified that the trespass was inadvertent, against orders, and due to discrepancies in surveys made through long, steep and tortuous passages. The lower court charged, in substance, that it was the duty of owners and agents of mining property in operation to exercise an especial care in approaching a boundary line, and a trespass itself was conclusive as to negligence and merited punitive damages. The jury gave a verdict of some $11,000, apparently making no deduction for costs of mining, etc.

The superior court, on review, held that in an inadvertent trespass, the true measure of damages was the value of the ore on the dump—that is, its gross value, less treatment and freight charges—and that a further deduction should be made for reasonable costs of mining and transportation to the surface. The case was reversed and remanded for a new trial in accordance with these instructions. An allowance for the cost of mining, etc., would presumably reduce the damages considerably. In a willful trespass, the rule would allow no costs of mining.

As between amicable neighbors, it is usually possible to adjust such differences without suit. We are under the impression, however, that our local reports of the jury trial indicated considerable feeling between the two companies named above, and this was said to have been due to other apex litigation which was pending at the time, but which, we are informed, has since been adjusted.

ANTHRACITE COAL IN 1898.

We have now the complete figures for the shipments of anthracite coal to market during the year 1898, which differ very slightly—by only 0.6 per cent.—from the preliminary statistics given in the "Engineering and Mining Journal" for January 7th last. These shipments, compared with those for 1897, as taken from "The Mineral Industry," Vol. VI, were as follows, in long tons:

Shipments and Production of Anthracite Coal.

	—1897.—		—1898.—		Changes.	
	Tons.	Per ct.	Tons.	Per ct.		Tons.
Phila. & Reading...	8,395,411	20.2	8,219,814	19.6	D.	175,597
Lehigh Valley	6,425,227	15.3	6,885,577	16.5	I.	460,350
D. & H. and Lack..	5,646,852	13.6	5,613,186	13.4	D.	33,666
Pittston region	1,777,841	4.3	1,854,515	4.4	I.	76,674
Scranton region	5,690,684	13.7	5,795,540	13.8	I.	104,856
Central R.R. of N.J.	4,730,860	11.4	4,626,386	11.0	D.	104,474
Other regions	8,970,989	21.5	8,904,733	21.3	D.	66,256
Total shipments ..	41,637,864	100.0	41,899,751	100.0	I.	261,887
Consumption and sales at mines....	4,104,062	..	5,245,415	..	I.	1,141,353
Total production	45,741,926	..	47,145,166	..	I.	1,403,240
Per ct. used and sold at mines....	.....	9.9	.....	12.5		.....

The total shipments to market in 1898 have been exceeded only in three previous years—in 1893, when the aggregate was 43,089,539 tons; in 1895, when the maximum production of anthracite was made and the shipments reached a total of 46,511,476 tons, and in 1896, when 43,177,485 tons were sent to market. The increase last year over 1897 was, however, only 0.6 per cent.

The figures for the total production are those furnished by the reports of the mine inspectors of the several districts to the Pennsylvania Department of Internal Affairs. They show that the allowance of 7 per cent., which it has been customary to make for coal consumed at the mines or sold in the neighborhood is now too low; in part, probably, owing to increased local sales, and in part to larger consumption in mining. It must be remembered that in the great majority of the collieries the expenses for pumping, etc., are increasing.

In attempting to ascertain the price received for this coal, we meet with the difficulty that in most cases the reports of the companies do not as a rule give the necessary data for ascertaining this. They confine themselves to general statements and net financial results, and only one or two give any details.

The statements, moreover, are not consistent with each other. Thus the Delaware & Hudson Canal Company's report, which gives definite figures, shows an average selling price of $1.84 a ton; but the last report of the Philadelphia & Reading Coal and Iron Company—which is for the fiscal year ended June 30th, 1898, and not for the calendar year—shows an average selling price of $2.84 a ton.

We may add that the average tidewater price of the "prepared" sizes of anthracite in 1898 was $3.42 a long ton; of the small or "steam" sizes, $1.79. About 80 per cent. of the coal sold at tidewater is of the prepared sizes.

As to the cost of mining and marketing anthracite coal, we have the difficulty already referred to of indefinite statements of accounts, with the further fact that in most cases the coal mines and transportation lines have the same ownership, and the adjustment of the transportation charges can be—and is—most frequently made so as to show a favorable balance on the books of the railroad company, whose stocks are held and dealt in by the public, rather than on those of the coal company, the stock of which is merely a nominal asset of the railroad. We have, however, a few figures as to the costs of mining, which are given in the table below:

Cost of Mining Anthracite Per Ton.

Delaware & Hudson	$1.34
Lehigh Coal & Navigation Co	1.31
Lehigh Valley Coal Co	1.90
Philadelphia & Reading	1.71

There are only two reports from which the cost of mining, transportation and marketing per ton can be deduced and these are given below:

	Mining.	Marketing.	Total.
Delaware & Hudson	$1.31	$0.41	$1.75
Per cent. of total	76.6	23.4	....
Philadelphia & Reading	$1.71	$1.13	$2.84
Per cent. of total	60.2	38.8	....

The Lehigh Valley Coal Company, while it does not give the total cost per ton, shows that the mining expenses were 59.5 per cent. and the transportation and marketing 40.5 per cent. of the total. We may recall, however, that the bulk of the Delaware & Hudson Canal Company's coal reaches tidewater over a railroad which it does not own—the Erie—and that it is known to have a very advantageous contract for transportation.

The fact seems to be that, whatever profits may accrue to middlemen and others engaged in the trade, the net return to the anthracite operating companies is very small. In fact, some of the large companies, like the Philadelphia & Reading Coal and Iron Company, report running expenses very nearly equal to their earnings, leaving nothing to pay interest on their liabilities; while others, like the Lehigh Valley Coal Company, show an actual deficit, the cost of coal exceeding the returns. We must, however, again call attention to the complication of ownership and accounts between mining and transportation, which makes it very difficult to say what the real profit in the trade may be.

It is worthy of note that one company—the Pennsylvania Coal Company—which confines itself strictly to coal mining and buys its transportation from railroad companies at low rates, is a steady dividend payer and its stock commands a high premium. This company, however, has had the exceptional advantage that its coal lands were bought many years ago at a small cost, and it is not obliged to pay heavy royalties and rentals or interest on extravagant first cost of property, as most of its competitors do.

There were no new developments in the anthracite trade in 1898. The sale of this coal is confined to the States along the Atlantic Seaboard, north of Chesapeake Bay, and to a comparatively narrow strip of country bordering on the Great Lakes or within the limits of a short rail haul from Lake ports. Outside of those limits, the cost of transportation makes anthracite a luxury which only a few can afford to use. Even on the seaboard the bituminous coals have made and are making inroads into the anthracite trade for steam and manufacturing uses.

Only a small quantity is exported, the total in 1898 having been 1,350,948 tons, nearly all to Canada. No anthracite is exported to European or other countries outside of this continent. A number of years ago Mr. Franklin B. Gowen—then president of the Reading Company—made some experimental shipments to Europe, but the results were not encouraging. Last year the Anthracite Coal Operators' Association sent an agent to England, France and Germany to establish trade relations, but this mission, widely advertised at the time, seems to have resulted in nothing.

The future of the trade is as uncertain as it was a year ago, in spite

of the numerous current reports of combination and regulation. The present seems to be an excellent time for the companies to make an entirely new departure and take up the question of converting their coal into gas for the supply of the large cities and towns, as we have often suggested to them in our columns. If they fail to do this now, they will soon have to meet the outside competition, which has already begun in Boston.

NEW PUBLICATIONS.

"The Iron Ore Fields of Kiirunavaara and Luossavaara, in the Province of Norrbotten, Sweden." By the Royal Swedish Board of Trade, with a report by Hjalmar Lundbohm. Geological Survey of Sweden. Stockholm: K. L. Beckmans, 1898.

In 1897 the Swedish Government, becoming aware of the possibly great value of the iron ore deposits recently explored in the northern portion of the Kingdom, appropriated the funds to construct the projected State railroad from Geliavare to the Norwegian frontier, with a branch to the iron fields.

These iron ore deposits, according to the present report, are the largest individual ore bodies in Scandinavia, while "in all Europe and America their rivals in size are few in number; they consist principally of magnetite [this, by the way, being a mistake of the Swedish geologists, since our Michigan and Minnesota ores are mainly hematite, though in Michigan there is a supply of magnetite for special purposes, as for open-hearth furnace use], and the remaining part is also magnetite mixed with hematite." This comparison, as to quality, is hardly against the Michigan ores of magnetite and martite, which run higher than the earthy red and specular ores. The fact remains, however, that in Northern Scandinavia are deposits of iron ore which will be available to British ironmasters at cheap freight rates. As a question of competition in iron and steel, for there is none in iron ore, it is interesting to note what the Swedish geologists have to say about their own resources, now opened to the British iron smelter.

As to Kiirunavaara the reports state that the ore forms a bed-like mass, which rises to a ridge for a distance of about two miles and is broken up into a number of summits varying from 200 to 317 ft. above the neighboring lake. The ore beds dip at an angle of 50° from the horizon eastward, and in thickness, or the perpendicular distance from hanging to foot wall, may be assumed to vary from 111 to 498 ft. It is hard to realize these figures. The borings with the diamond drill indicate that the width decreases downward, though this cannot yet be definitely established. On the assumption, however, that it does so, the total quantity of ore above the level of the lake is estimated by the Swedish geologists at about 215,000,000 tons, besides a very considerable though at present incalculable quantity of ore below this level.

The report goes on to state that at Luossavaara several deposits of iron ore exist, most of them being covered with soil. By means of magnetic surveying it was ascertained that the largest and most important of the deposits has a longitudinal extension of at least a mile and thickness of between 68 and 180 ft., while the dip near the south end was discovered, by a test pit, to be about 75°, the same tests indicating that the ore body here, too, decreases downward.

These statements of ore capacity ought to be reassuring to British iron masters, whose supplies from Elba, Spain, and other quarters have fallen off, while the home production has been strained to the utmost.

Now, turning to quality, we find in the published analyses the phosphorus contents in Kiirunavaara ore and Luossavaara ores as follows: 0.047 per cent., 0.038, 0.042, and 0.0605, 0.288, 0.305, 0.733, 0.302, 0.857, 1.684, 1.288, running up to 2.802 per cent. These analyses show a wide range, and are not very significant, running from low Bessemer to high basic grades. We find, however, in the table of analyses of ore from Luossavaara, taken in 1897, which we presume to be average samples of the mass, the following composition: Iron, 69.87; phosphorus, 0.038 to 0.584; sulphur, 0. These deposits cannot be ignored in future estimates of the iron trade.

"Practical Notes on the Cyanide Process." By Francis L. Bosqui. New York and London, 1899; The Scientific Publishing Company. Pages 202; illustrated. Price, $2.50.

Since the cyanide process came into successful use about ten years ago there has been an enormous amount of technical literature relating to it, including several elaborate treatises such as Scheidel's, Eissler's and Park's, besides those incorporated in Rose's "Metallurgy of Gold," and Schnabel's "Handbook of Metallurgy." The transactions of the American Institute of Mining Engineers and other technical societies, especially the proceedings of the Chemical and Metallurgical Society of South Africa (which naturally devotes a large amount of its time to this subject), and "The Mineral Industry," have contained more or less exhaustive monographs on various phases of the process, without presenting any such systematic resume as is looked for in a text-book. With this great mass of literature, it is rather astonishing that there has been nothing which might be considered a complete, scientific and thoroughly satisfactory presentation of the subject. Without entering into invidious criticisms upon the treatises previously mentioned, it may be said without fear of controversy that they fall far short of what a treatise on the cyanide process ought to be. It cannot be said that this new book by Mr. Bosqui is the ideal treatise, nor, judging from his modest preface, is it in the author's mind that he has furnished that, but there is no doubt, nevertheless, that his work is better than any of its predecessors, and until something decidedly superior is published we have no doubt that Mr. Bosqui's will be referred to as the leading authority.

The table of contents shows that he has taken up the subject in the following manner: History and Chemistry, Application of the Process, Laboratory Tests, Design of Works, Details of Construction, Arrangement of Pipes, Valves, etc., Preparing Ores or Tailings and Charging Vats, the Leaching Process, Precipitation by Zinc, Cleaning Up and Refining the Precipitate, Technical Results, Modifications of the Simple Cyanide Process, Exemplifications of Practice in South Africa, Australia, New Zealand, India and the United States. It will be observed that Mr. Bosqui has omitted all reference to the machinery and methods of sampling and grinding gold ores preparatory to charging them into the vats, which has led to a great saving in space in his book. In our opinion this is as it should be, since, although the methods of ore sampling and fine crushing are of vital importance in the treatment of ores direct from the mine, they do not differ in principle from the methods employed in preparing ores for chlorination and other gold milling processes; and it is a useless repetition to go over this same ground in every special treatise. There is room for up to date treatises on the subjects of ore crushing, ore sampling, etc., which would serve as a common introduction to special treatises on the cyanide process, the chlorination process, the Patera process and other particular branches of industrial metallurgy.

Mr. Bosqui's treatment of the subject is thoroughly practical, and his text, which is written in an unusually clear style, is illustrated with numerous reproductions of photographs and diagrams which show dimensions. He is particularly interesting in his details of construction, wherein, as a practical man himself, he has referred to many of the important minor points which the unpractical writers on this subject overlook; and he is also especially strong in his account of tank room practice, in which department he has gone into the details of actual working conditions with greater minuteness than any other writer on this subject. The chapters on Precipitation by Zinc and on Cleaning Up and Refining the Precipitate are also very good, indeed.

In conclusion, it may be said honestly that Bosqui's treatise on the cyanide process is the best there is at the present time, and although it may not meet all the expectations of the experts in this department of metallurgy it will surely be of great value to the rank and file who are working in it; and every cyanide mill manager, chemist and mill-owner ought to have a copy for study and reference.

W. R. I.

BOOKS RECEIVED.

"Hydraulic Mining: Part I., Ditches." By C. C. Longridge. London, England; The "Mining Journal." Pages, 34; price (in New York), $1.

"Twenty-sixth Annual Report of the Director of the Mint." 1898. George E. Roberts, Director. Washington, D. C.; Government Printing Office. Pages, 558.

"Statistisches Jahrbuch des K. K. Ackerbau Ministerium for 1897. Zweites Heft; der Bergwerksbetrieb Oesterrichs ner Jahre, 1897." Vienna, Austria; Imperial Printing Office. Pages, 266.

"Sixth Annual Report of the Bureau of Agriculture, Labor and Industry of the State of Montana." For the year ending November 30th, 1898. J. H. Calderhead, Commissioner. Helena, Mont.; State Printer. Pages, 228; illustrated.

"Bulletins of the New York State Museum." Volume 5, No. 21 (September, 1898), Geology of the Lake Placid Region." By James Furman Kemp. Pages, 16, with accompanying map. Price, 5c. "Volume 4, No. 19, (November, 1898)—A Guide to the Study of the Geological Collections of the New York State Museum." By Frederick J. H. Merrill, director. Pages, 154, with map and illustrations. Price, 40c. "Volume 5, No. 23, (December, 1898)—Fourteenth Report of the State Entomologist on Injurious and Other Insects of the State of New York, 1898." By Ephraim Porter Felt. Pages, 142, with plates. Price, 20c. Albany, N. Y.: Published by the University of the State of New York.

CORRESPONDENCE.

We invite correspondence upon matters of interest to the industries of mining and metallurgy. Communications should invariably be accompanied with the name and address of the writer. Initials only will be published when so requested.

Letters should be addressed to the MANAGING EDITOR.

We do not hold ourselves responsible for the opinions expressed by correspondents.

The Missouri & Kansas Zinc Miners' Association.

Sir:—Allow me, on behalf of our association, to tender our sincere thanks for your very fair, lucid and conclusive editorial in the "Engineering and Mining Journal," March 18th, in regard to our organization. When we first organized, on December 20th, 1898, we had in mind the regulating, if possible, of the price for our zinc ores in this district without any definite idea of what policy would be necessary to bring that about. The logic of events has shown to us that the policy adopted on March 1st of promulgating a schedule of prices which we will demand for our ores is fair, just and equitable to all interests. Our success has been beyond the expectations of the most sanguine members of our organization. We expect to continue our conservative policy and believe that the perpetuity of our organization and the resulting benefits are assured.

Again we thank you for your considerate attention, and trust that in the future our business policy will merit the same.

Geo. B. Paxton,
Secretary.

Joplin, Mo., March 25, 1899.

Gold in Clay.—Other Minerals in Argentina.

Sir:—In regard to gold clay, I may say that in the second range of the the Andes—called Sierra Famatina—which runs in a north and south direction parallel to the main chain, in Argentina, where I was prospecting, six months ago, there is clay containing gold in large quantities. The assays I made by lixiviation gave from 1 oz. to 1½ oz. gold per ton. The clay of this country diluted by the heavy rains in the winter season set the gold free and the poor "metis" people living there collect it and sell it at about 45c. per gramme to the agents of Buenos Ayres firms

when they pass through the villages. This gold assayed by me in the laboratory of the Mint in Buenos Ayres is of a high degree of purity; it gives: Au., 0.90; Ag., 0.07; Cu., 0.03.

The thick mantel of white clay covers several mountains of the range in the Northwest part of the province of Rioja, about two days' travel on horseback from the nearest railroad station.

In the same region which I explored for account of a mining company I found many copper veins containing silver and gold. The name given to this country is the District Del Oro.

In the third range of the Andes—called Sierra Velasco—between the two cities of Rioja and Chilecito, I found only some mica, but in the state of San Luis (on the way from Buenos Ayres to Valparaiso by train) I found fine concentrations of pyrolusite, asbestos and soapstone.

Only a very few of those mines are worked now, but once the country becomes known there is no doubt many Americans and Europeans will go there.

Chas. Picard.

New York, March 25, 1899.

Oral Discussions at the Meetings of the Institute of Mining Engineers.

Sir: Dr. Raymond, in your issue of March 18th, asks for "helpful and practical suggestions on the subject" of oral discussions at the meetings of the American Institute of Mining Engineers. My suggestion is that the following rules in relation to the presentation and discussion of papers be adopted and carried out:

"1. The manuscript of all papers offered to be presented at any meeting must be in the hands of the Secretary 60 days before the date of the meeting, if they require illustration, or 40 days, if not.

"2. Thirty days before each meeting the Secretary shall mail to each member in the United States and Canada a reply postal card, giving the list of papers to be presented at the meeting and asking the questions: 1. 'Do you expect to be present at the meeting?' 2. 'Which of the papers listed do you desire to have mailed to you before the meeting, so that you may prepare, should you see fit, a discussion either orally or in writing.' Fifteen days before the meeting the Secretary shall mail to those from whom the replies have been received such papers as have been asked for, inclosing a postal card for reply, with blanks printed thereon as follows: 1. I will send (or bring) to the meeting written discussions on papers Nos. ——. 2. I desire to take part in the oral discussion on papers Nos. ——."

At the meeting all papers are to be presented by their authors, or by the Secretary, in a brief abstract only, occupying not more than five minutes, except (1) those papers which no member has expressed a desire to discuss, and which may be read by title; and (2) those which are in the nature of a lecture and require lantern slides for proper illustration, in which case any time that may be proper may be devoted to them, at the discretion of the Council.

Would it not be well to try this plan for one meeting, say, the next annual meeting?

Wm. Kent.

New York, March 25, 1899.

MINE ACCIDENTS IN MONTANA.

The latest report of Mr. John Byrne, State Inspector of Mines in Montana covers the year ending November 30th 1898, It gives the number of accidents occurring in Montana mines as below:

	1897.	1898.	Changes.
Mines inspected	130	136	I. 6
Men employed	9,825	11,096	I. 1,271
Fatal accidents	52	49	D. 4
Non-fatal accidents	29	29	...
Total killed and injured	81	77	D. 4

The proportion of men killed to the total number reported was 1 in 189 in 1897 and 1 in 231 in 1898. The proportions injured were 1 in 339 and 1 in 382, respectively. In both cases the portions were very high.

The inspector, Mr. John Byrne, refers at length to the law requiring hoisting cages to be inclosed. Efforts to enforce it in the Butte District have not been successful, owing to the delay of the district attorney in bringing suit against delinquent companies.

The inspector also gives some useful notes with regard to the handling of dynamite and other explosives and arangements for storing them. He recommends several amendments to the law, in relation to openings for ventilation and safe escape from mines; to safety cages in hoisting, and to the rate of speed to be used in hoisting. All of these are practical and likely to be useful.

THE GENERAL CHEMICAL COMPANY.

A consolidation of great importance in the chemical trade, which has been under discussion for some time, has just been concluded. The official circular just issued shows that the following concerns have joined the agreement: Nichols Chemical Company, New York; National Chemical Company, Cleveland, O.; Passaic Chemical Company, Newark, N. J.; Highlands Chemical Company, New York; Lodi Chemical Company, Lodi, N. J.; Chappell Chemical Company, Chicago; Moro Phillips Chemical Company, Philadelphia; Martin Kalbfleisch Chemical Company, New York; James L. Morgan & Co., New York; Dundee Chemical Works, Dundee, N. J.; Fairfield Chemical Works, Fairfield, Conn.; James Irwin & Co., Pittsburg. The capitalization of the new company is $25,000,000, consisting of $12,500,000 in 6 per cent. cumulative preferred stock and $12,500,000 in common stock. About $7,500,000 preferred and $7,500,000 common stock will be issued for the business and plants of the above-mentioned concerns upon the following basis: 90 per cent. of the preferred stock will be issued at par for the appraised value of tangible property of constituent companies, but no preferred stock will be issued for property upon which the previous owners were not earning at least 8 per cent. per annum net profit. A working capital of $750,000 has been provided by the vendors, each subscribing at par for additional preferred stock to an amount equal to 10 per cent. of the valuation of its tangible property, payable in cash. The common stock will be issued at par for the entire value of the intangible property of the vendors in proportion to their earning capacity, as ascertained by the Audit Company of New York. It will be seen by the foregoing (according to the circular) that the stocks of the General Chemical Company have been issued upon the basis of actual values and earning capacity of the constituent companies; that no stock has been given as a bonus to an underwriting syndicate and no commission has been paid to promoters. The aggregate net earnings of the constituent companies for the year 1898 are said to have been over $1,000,000, and it is expected that economies in manufacture, administration and distribution will largely increase the annual net profits. The company is to have an ample working capital, provided, as before stated, and has no bonded or floating debt. It is announced also that quarterly dividends at the rate of 6 per cent. per annum will begin upon the preferred stock from July 1st, 1899. The officers are: President, William H. Nichols; treasurer, James L. Morgan, Jr.; secretary, Charles Robinson Smith,; counsel, Sanford H. Steele; consulting engineer, J. B. F. Herreshoff. These gentlemen, with the exception of Mr. Herreshoff, are numbered among the directors, which include the following: George W. Kenyon, Louis S. Wolf and J. Herbert Bagg, of New York City; Eugene Waugh, Highlands Station, N. Y.; Frederick Phillips, Philadelphia; C. P. Tiers, Pittsburg; E. H. Rising, Cleveland, and H. F. and H. W. Chappell, of Chicago. The registrar is the Manufacturers' Trust Company. The transfer office and headquarters of the General Chemical Company is at No. 32 Liberty Street, New York City. The securities of the company are to be listed on the New York Stock Exchange, and the brokers are James H. Oliphant & Co., of No. 20 Broad Street, New York.

SILICON-CARBIDE FOR ELECTRIC LIGHTS.—According to the London "Electrical Review," carbide of silicon is now manufactured in the form of filaments for incandescent lamps at Huyton, in England, by the Premier Electric Lamp Syndicate. Experiments have been in progress for some time, and the manufacture is now carried out on a commercial scale. It is claimed that this substance is economical and lasts longer than any other filaments known.

WIRELESS TELEGRAPHY IN FRANCE.—United States Consul-General Gowdy writes from Paris under date of February 14th, 1899, that he has had an interview with Mr. E. Ducretet, the noted inventor and constructor of electrical apparatus, who stated that messages can be at present perfectly transmitted a distance of about 13 miles through space without wire. The messages are despatched and received by masts 30 meters high at the extreme ends of the distance. One of the principal obstacles encountered was the apparent impossibility of accomplishing the automatic registration of the message. This has been overcome by an instrument of Mr. Ducretet.

SECONDARY X-RAYS.—According to G. Sagnac, "Comptes Rendus," January 30th, 1899, the bundle of transformed rays emitted by a body under the influence of X-rays constitutes a mixture of various rays whose powers of penetration, inferior to those of the X-rays which generate them, form a series which is the longer the more profoundly the original X-rays are modified. The heavy metals especially emit very heterogeneous secondary beams. The more easily absorbed rays are absorbed by a few millimetres of the air itself. The author calls the secondary rays S-rays. He describes an interesting experiment made by laying a sensitive film upon a metallic plate exposed to X-rays, and gently inclining the film with respect to the metal. The X-rays, of course, produce a blackening which is uniform all over the film. But where the layer of air between film and metal is not thicker than 1mm., the blackening is intensified by the action of the S-rays. Quite close to the edge of the film, however, where the thickness of air is not more than 0.1mm., there is a distinct brightening. The author suspects here the presence of some S-rays capable, like ordinary light, of neutralising the photographic effect of X-rays, and recalls Schumann's discovery of extreme ultra-violet rays of 0.1μ wave length, which also possess this property, and are absorbed by a layer of air 0.1mm. thick.

AMERICAN RAILROAD MATERIAL FOR FORMOSA.—United States Consul James W. Davidson, at Tamsui, writes under date of February 17th that "the Formosan Government has asked for an appropriation of 40,0000,000 yen ($20,000,000 in United States gold) for the construction of a railroad through the island and for the improvement of Kelung Harbor. The Japanese Cabinet has given its approval, and, as the railroad and harbor are urgently needed, it is believed the Diet will pass the bill. There is at present in the island a railroad 60 miles long, running from Kelung to Teckcham (Hsinchik). It was commenced in 1887 and completed in 1891. It was owned by the Chinese Government, but, on the taking over of the island by the Japanese, it passed into the possession of the latter Government. The proposed railroad will extend south from Teckcham to Takow, a distance of 175 miles.

"The Japanese have rebuilt a part of the existing road, but no new rolling stock, with the exception of two or three second-hand locomotives from Japan, has been added. At present, 6 locomotives, 12 passenger cars, and 20 freights and flats are in use. The gauge of the present line is 3 ft 6 in., and the same will probably be continued in the new road. There will be required steel rails (probably of 60 pounds), locomotives, and bridge material for the line, and one of the leading engineers connected with the work has expressed to me his intention of recommending American locomotives.

"I have been urgently requested by Mr. H. Yamashita, Taipeh, Formosa, one of the leading merchants and president of the Taipeh municipality, to place his name before the manufacturers of railroad supplies; he specially desires information regarding American locomotives. If any of our manufacturers communicate with him, I would recommend that they give full particulars and lowest terms in the first letter, as there is but little time to lose."

IRON AND STEEL FOR MINE SUPPORTS.*

By George L. Kerr.

Within recent years the use of iron and steel supports for underground roads has greatly extended, and under certain conditions their use may be recommended. But it must be remembered that the conditions under which steel or iron girders can be used underground are different from the conditions under which the same materials are used on the surface. When used on the surface, all the conditions that will affect the supports in any way can be accurately determined, and the size and strength of support to be used for any purpose can be ascertained by calculation. Underground, these conditions can hardly be ascertained at all, or at least only very partially; the top weight to be supported may be unknown, and further complications are introduced when heavy side-pressure is encountered. Instead of the load being uniform, as on the surface, it is very varied, and the supports are subject to great and sudden pressure. Steel girders, however, seldom break under sudden pressure or weight, and nearly always give indications of pressure by deflecting in the centre. Girders have been known to show 5 to 7 in. of deflection before breaking.

In a large number of mines there are main haulage-roads and horse-roads where the strata have settled, and where the pressure is fairly uniform and constant. In such roads, steel or iron supports can be used to advantage. Again, in return air-ways, where the air is hot and foul, wood very rapidly deteriorates and requires frequent renewal, and in such circumstances steel or iron supports may be advantageously used.

On the Continent of Europe, a simple arrangement is used, as shown in Fig. 1. Iron bars, weighing 8 to 10 lbs. per foot and shaped like girders, are bent in the form of a horse-shoe to suit the roadway, and are set up 2 to 3 ft. apart. The space between the webs is filled up with planking 1½ to 2 in. thick, forming a neat and strong lining. Another method, adopted in the North of France, is to use the girder in two pieces curved at the top, joined by two fish-plates in the centre, and fastened by four bolts (Fig. 2). A cast-iron sleeve may be used in place of the fish-plates, and old iron rails may be used as girders. When the pavement is soft and liable to creep, the support is made in three pieces bent to fit the road-way and joined to one another in the same way as before, with fish-plates and bolts or by an iron sleeve and wedges. (Figs. 3 and 4).

In using girders and steel props, one great difficulty is to prevent them from canting. To overcome this difficulty, the supporting props may be made hollow, and fitted with flanges somewhat like cast-iron pipes. Into the top of these hollow props a chair is fitted, and receives a reversed cast-iron rail weighing about 16 lbs. per foot (Fig. 5). The sets (Fig. 6) are placed 3 ft. apart, well lagged on the top with planking, and all empty spaces are tightly packed with rubbish. This method is best suited for a weak roof and no side-pressure.

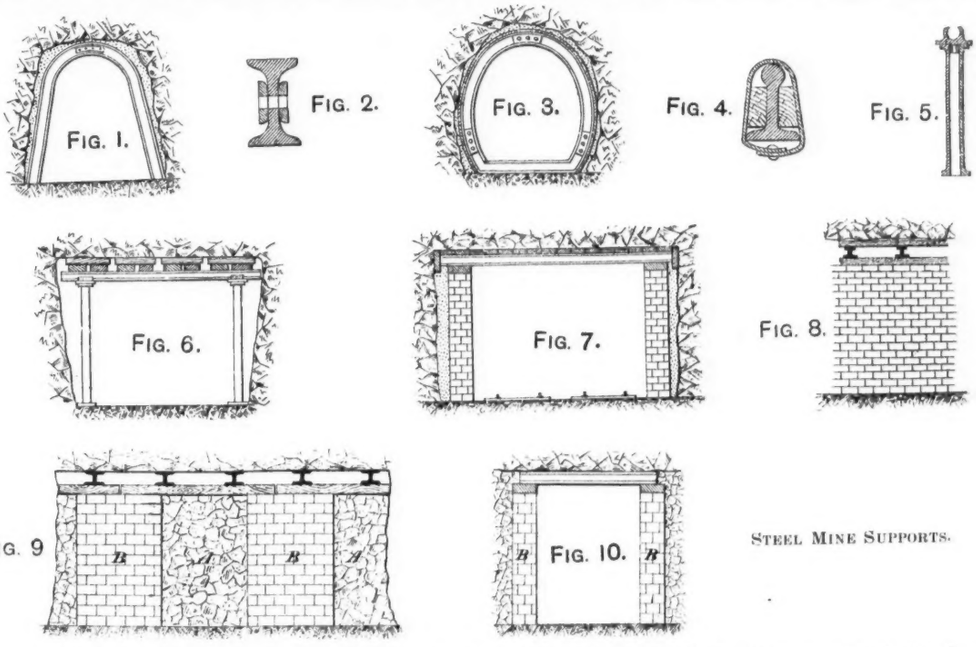
Main haulage-roads and shaft-bottoms are often secured by building up a perpendicular brick wall, 14 to 24 in. thick on each side of the road, and stretching steel girders across them (Figs. 7 and 8). Along the top of the wall, wooden planking is laid, on which the girders are rested. The wood helps to relieve any sudden pressure that may come on the iron girders. The girders should be wedged tight, and a runner or strap of iron should be fixed between the set so as to prevent them from canting. On the top, square or round pieces of timber are laid close together and all spaces are carefully packed. At Milnwood Colliery, Bellshill, wooden lagging was replaced by iron straps, about 3 in. broad and ⅝ or ¾ in. thick placed close together. This system is preferable to that of using wooden lagging, as the wood decays and requires frequent renewal. At Bent colliery, Hamilton, iron rails supported by brick walls (14 in. thick) were used to protect the pit bottom, and have given satisfaction.

At Lanemark Colliery, New Cumnock, side-walls are built on each side of the road with the rubbish got in the workings, using cement, mixed with sand, in the proportion of 1 part of cement to 4 parts of sand, to bind the stones together. At intervals along the road, brick pillars are built up to the same height as the stone building. Along the top of the side-walls a wooden plank is laid, and on top of them light steel girders are used to support the roof. Figs. 9 and 10 show this method, A being the stone and cement building and B the brick pillars.

The advantages of using this method of support instead of brick-arching are: (1) Less space is required to be excavated for a given area, being nearly 25 per cent. less than for brick-arching; (2) less time is required for erection, and hence less cost for labor; (3) Where the strata are soft, girders can be placed as the work proceeds; while with brick-arching temporary supports would have to be used, thus increasing the cost; and (4) Increased space for ventilation (8 to 10 per cent. more).

The cost of iron or steel girders will depend on the fluctuating price of the material and the proximity or otherwise of the colliery to the source of production. Owing to the varying conditions of different mines, it is impossible to fix any definite weight or size of girder for a given span. Sometimes a 9 ft. girder (8 ft. span) of 5 by 4 by ⅜ in. section is used instead of larch timber, 9 in. in diameter.

The following weights of girders are often used for spans of 6 to 14 ft. Girders weighing 16 2-3 lbs. per foot, for spans of 6 to 8 ft.; 22 lbs. per ft., for spans of 8 to 10 ft; and 24 lbs. per ft., for spans of 10 to 14 ft. These can only be taken as approximate sizes, and it would be best to err a little on the safe side.



STEEL MINE SUPPORTS.

Some of the advantages claimed for iron and steel girders over timber or brick-work are: 1. They are lighter and handier to work with than heavy wooden beams. 2. Iron-work can be erected in about one-fourth less time than brick-work, and hence fewer men are required for a given amount of work. 3. Girders can easily be removed from one part of a mine to another and be reset, whereas brick-work is seldom removed. 4. Girders give an increased space for ventilation compared with timber. 5. Greater durability, which means a reduction in cost for repairs. 6. No pollution of air, as is the case with decaying timber. 7. There is no risk of girders catching fire.

*Abstract from paper read to the Mining Institute of Scotland, December 10th, 1898.

MINING CONCESSION IN CHINA.—Under date of December 15th, 1898, United States Minister Conger, of Pekin, says that a concession has been granted E. Sabbione, an Italian associated with the Pekin Syndicate, to work coal and iron mines in the prefectures of Hang-chou and Hu-chou, in West Chinkiang. The mines, it is stated in the concession, are to be worked in accordance with the recently promulgated regulations for mines and railways.

SNOWSHEDS OF WIRE NETTING.—The Virginia City (Nev.) "Chronicle" says that Gen. McGlashan of Truckee has completed his test of substituting structures of wire netting for the wooden sheds, on the line of the Central Pacific Railroad across the Sierra snow belt, with satisfactory results, and will submit to the Southern Pacific Company a proposition to adopt that method of keeping their roadbeds clear of snow during the winter. The tests made showed that scarcely any snow sifted through the interstices of the wire netting during the heaviest storm of this winter. The inventor claims that by the use of wire netting not only will the annual loss from fire be averted, but its substitution will enable tourists to obtain an unobstructed view of the fine scenery while crossing the Sierras. The building of a mile of wooden snowsheds costs $78,000, and their construction of wire netting would be much cheaper.

THE LIXIVIATION OF SLIMES.

Written for the Engineering and Mining Journal by Alfred James.

At the present moment when certain of the West Australian mines are endeavoring to treat their slimes by a method which involves the use of the filter press it may be useful to compare the results now being obtained at Kalgoorlie with those of the Witwatersrand, in which latter district slimes are being treated by the hundred thousand tons.

It appears that attempts have been made at Kalgoorlie to send all the water coming from the mill through the filter press, and to then force cyanide solution through the resulting slimy cakes in the hope of obtaining a successful extraction. It is obvious that such a method can scarcely be expected to prove successful in the long run, as the cyanide solution would naturally work a passage along the lines of least resistance, leaving the larger portion of the slimy mass practically untouched. To overcome this it has been necessary to include a very large proportion of sand with the slimes, and as these sands are long treatment particles they do not get sufficiently lengthened contact with the cyanide solution in the filter press to enable the mto satisfactorily yield their gold contents. The discharged cakes thus consist of slimes, from which the gold is readily and rapidly dissolved, and a very large proportion of sand only partially lixiviated, and consequently still containing gold; and it is obvious that for efficient and economical lixiviation the long treatment sands should be absolutely separated from the slimes and given separate or additional treatment.

Another method followed in Western Australia, which has much more to recommend it, is to first dissolve the gold from the slimes by agitation with cyanide solution preliminary to filter press treatment, which is thus reduced to its proper function of eliminating the gold bearing solutions from the lixiviated pulp. The pressed slimes, however, still contain a large proportion of gold-containing solution, which one attempts to displace by pumping in a water wash. The objection applicable to the former method also applies to this, though to a less extent; and long after the gold has been dissolved out of the slimes the agitation would still be continued for effective extraction from the slow treatment particles, which would have been much more satisfactorily and less expensively treated by simple percolation. It is noticeable that the companies using the filter press process hesitate to give figures showing the extractions obtained. Apart, however, from the further difficulty of washing actual slimes in filter presses there is the question of the heavy cost involved, and the lowest costs yet to hand amount to $1.55 per ton of mixed sands and slimes treated. These costs are much less high than those published, which are $2.10 per ton, but they are the latest results obtained by Mr. H. C. Callahan, whose enterprising pioneer work at the Lake View Consols has been of such great service to the whole Kalgoorlie industry.

A comparison of African results with those given above show that good extractions are now being obtained at a cost of from 54c. to 72c. per ton. It is necessary to remember that the slimes in Africa are so low grade that the extraction is very severely limited by the necessity of obtaining the highest possible profit, and that although an additional extraction of 3 or 4 per cent. might be obtained by a further transfer to an additional vat the percentage thus gained on a 3-dwt. slime has so little money value that it is not worth the few extra pence per ton necessary to secure the higher results.

The most recent figures to hand show that the Crown Deep Gold Mining Company has in three months treated over 11,000 tons of slimes of an assay value of about 3 dwts. for an actual extraction of 87½ per cent. of the value. The actual recovery and the theoretical extraction agree remarkably closely, and the cost of treatment amounts to 66c. per ton only. These results are obtained by means of circulation of the pulp and transfer by means of centrifugal pumps from vat to vat with decantation of the solutions and washing, and involve, as shown above, remarkably low costs for labor and supplies. Experiments that have been made on the Kalgoorlie slimes have shown that these settle in a manner almost precisely similar to those of the Rand. The addition of lime, however, does not appear to be necessary, possibly owing to the calcareous nature of the gangue, and thus one of the items which forms so large a proportion of the African cost (14c. per ton) may be entirely eliminated from Kalgoorlie practice.

The water question should not be an insuperable difficulty in the way of the adoption of the decantation process in Western Australia, as the water required ,which is less than that necessary for stamp crushing, is all returned to the battery with the exception of a final amount sent away to the dump with the treated slimes, and it has been possible to reduce this to so low a figure as 40 per cent. of the weight of the slimes treated.

If we take, however, that it is necessary to throw away 50 per cent. of water for every ton of slimes treated, which is about the African figure, as against 25 per cent. for the filter press practice, it does not follow that the latter method wastes more water than the former, as, including the large proportion of sands filter-pressed with the slimes to make them at all permeable, we have 50 per cent. of the total ore discharged from the filter presses containing 25 per cent. of moisture, as against 15 per cent. only, which is the average amount of true slimes present, discharged from the decanting vats containing 50 per cent. of moisture. This reduced to absolute figures means that on a dry-crushed output of 100 tons a day there is a loss of 12½ tons of moisture in the 50 tons of pulp passed through the filter presses, as against 7½ tons of moisture in the 15 tons of pulp which would be sent through the recanting vats. The above figures being calculated on dry crushed ore do not of course include any allowance for evaporation or for the water contained in the sands residue where wet crushing has been adopted, but in the latter case evaporation should not be increased by the use of the decantation method, as it is merely a question of settling the water employed in the mill in tanks instead of in big dams; and it has been found possible in Africa, since the adoption of the slimes process, to return the water to the battery much more speedily than was formerly the case, so that evaporation has actually been reduced.

It is not for one moment proposed that African practice is universally applicable; the actual decision of methods to be employed is usually best settled by the man on the spot, and may be safely left in the hands of the competent metallurgists who have given so good an account of themselves at Kalgoorlie; but the figures given above deserve the very serious attention of all those engaged in the elucidation of the problem of the successful treatment of slimes, and the writer has been induced to put them forward in the hope that they may lead to some efforts on a practical scale to determine the relative advantages of the two methods for local application in Western Australia.

LODES VS. PLACERS.

Written for the Engineering and Mining Journal by F. T. Freeland.

In the Supreme Court of Colorado, Justice Goddard recently delivered an opinion in the case of the Mount Rosa Mining, Milling and Land Company vs. Palmer, an appeal from the District Court of El Paso County. This was an action by Palmer to quiet title to his two lode claims situated in Cripple Creek, within a patented placer of the Mount Rosa Company. The placer location was senior to the lode location and the lode location was prior to the date of application for the placer patent. A jury found that the lode was discovered and known at the date of application for the placer patent. The lower court gave judgment for the lode, etc., to Palmer, together with 300 by 1,500 feet of surface. On review, the main contentions of Palmer were sustained, but the judgment was reversed and the case remanded, with instructions to cut down the width of the lode claims to 50 feet—the width required when lodes within placers are applied for with the placer by their common owner.

It would appear, then, that any placer may be entered upon by a stranger in opposition to the title between the dates of location and application for the purpose of prospecting for lodes, and that on discovery and completion of the location a strip of the placer 50 by 1,500 ft. may be held. Further, that after the date of application, the placer may be entered upon by a stranger for the purpose of locating, surveying and doing location work upon a known lode, not patented with the placer, such lode being one showing on the surface, or disclosed by workings prior to application; but not for the purpose of discovering a lode. It is conceded that such a lode must be valuable for mining purposes; that a discovery must be made, not a mere presumption of an underlying contact, etc.; and that possession must be had peaceably.

In Cripple Creek, where the formation, speaking broadly, is that of steep fissures under thin wash, the discovery might be quickly made, perhaps by accident in roadmaking, post-hole or cellar digging, etc. The above decision has stirred into feverish activity the placer-lode litigants over ground known as Poverty Flats, north of Leadville, Colo., where numerous 50-ft. locations have just been made over placers by both the placer and adverse owners. The formation here is mineralized contacts of porphyries, limestone and quartzites of small dip, covered with several hundred feet of glacial lake beds and drift, except toward the east and north edge. The making of a discovery there is a serious matter on account of depth and water, for no lodes outcrop.

In 1895 the owners of the Searle Placer covering part of Poverty Flats, leased the mining rights to Messrs. Estey & Mudd, who vigorously pushed down the Delante shaft. The Clipper Mining Company and the Carletons, owners of the Acme and Villa claims, near the edge of the placer and extending over it, were also sinking, and on striking mineral, it is said, located the Jason Claim, surveying in the Delante shaft. The Searle people, 16 days afterward, it is said, struck mineral and located 13 claims, conflicting in part with these Clipper claims, and adversed the Jason by the placer and also by these new locations. However, since the decision mentioned above, the ground has been relocated by the Searlo people and the Westport Mining Company, with perhaps a hundred locations 50 by 1,500 ft. with the presumed intention of protecting the placer claims.

In later times Leadville has been comparatively free from mine litigation, the common-law principles of vertical boundaries and the concurrence of the mineral rights with the surface areas being generally accepted. Among the last cases was the Iron Silver Company vs. Mike & Starr Company (143 United States 348); here the Goodell and Gardiner claims located on the Moyer placer of the Iron Silver Company after patent had issued, claimed as known lodes some crevices in the porphyry giving small values exposed in an ancient tunnel. The Iron Silver Company, relying on the patent apparently, did not seriously controvert the alleged lodes. The jury found the lodes to be known and the court gave 300 feet in width to the claims. In Iron Silver Company vs. Campbell (135 United States 294), the Land Office issued a lode patent for ground already covered by a placer patent. After 12 years of litigation, several jury trials with contrary verdicts, appeals to the United States Circuit Court and the United States Supreme Court, the case was dropped after a technical decision, partly the result, perhaps, of the exhaustion of the defendant, with but little additional light thrown on the questions involved. It is well understood that the valuable part of the ground here was neither crevices in the porphyry nor placer dirt, but the main Leadville contact lying below hundreds of feet of porphyry and not outcropping near these claims and not opened by any of these claimants at that time.

The confusion attendant on the uncertainty of mining titles can only be regarded as a serious obstacle to the progress of the industry, and the circumstances mentioned above give an exposition of the inefficiency of the present code, or absence of one, which is, in effect, startling.

LIGNITE IN BOHEMIA.—The production of brown coal (lignite) in Bohemia in 1898 was 17,420,000 metric tons, as compared with 16,870,000 tons in 1897, and 15,300,000 tons in 1896. A large part of this brown coal is exported to Germany.

UNDERGROUND IN A JOPLIN ZINC MINE.

The accompanying illustration is reproduced from an excellent photograph taken underground, and shows miners at work on the 125-ft. level of the mine operated by the John Jackson Mining Company, near Joplin, in the Missouri zinc belt. The formation in which the ore is found is limestone and flint, with pink dolomite and calcite. The face shown in the photograph, up to the level of the highest drill, is very rich. It averages 35 per cent. in the stope and 12 per cent. in the heading. The company has four No. 2 Rand drills in use, and sends about 75 tons of ore through the mill each shift of 10 hours.

We are indebted for this excellent photograph to the kindness of Mr. O. E. Hart, manager of the John Jackson Mining Company.

The Joplin Region is now attracting general attention on account of its large and increasing production of zinc ores. The district is exceedingly prosperous at present, not only because of this large production, but because zinc ores have this year commanded the highest prices ever known. The sales in the Joplin market this year up to March 18th reached a total of 51,515 tons zinc ore and 4,823 tons lead ore, the total value being $2,022,111. These figures show the great importance of this region.

COPPER CONSUMPTION IN GERMANY.

The yearly circular of Messrs. Aaron Hirsch & Sohn, of Halberstadt, which has just come to hand, gives some interesting particulars and estimates of the imports, exports and production of copper in Germany through a series of years. The estimate for 1898, compared with the figures for 1897, is as follows, in metric tons:

Imports.	1897.	1898.	Increase	P. c.
Pig and scrap copper	67,572	73,290	5,718	8.4
Copper in brass	4,199	4,720	521	12.4
Copper in ores	2,592	2,683	91	3.5
Copper in pyrites	8,540	9,079	539	6.4
Total, fine copper	82,903	89,772	6,869	8.3
Exports in all forms, fine copper	12,568	14,957	2,389	19.8
Net imports	70,335	74,815	4,480	6.4
Production in Germany	29,468	30,703	1,235	4.2
Total	99,803	105,518	5,715	5.7
Deduct for copper produced in Germany from foreign ores	3,500	4,000	500	14.3
Approximate c'nsumpt'n.	96,303	101,518	5,215	5.4

Of the imports of fine copper last year 52,473 tons were from North America and 12,754 tons from England; probably a considerable part of the latter was American copper. From Japan 2,196 tons were received. The imports of copper pyrites were from Spain and Portugal; their full copper contents are estimated, and the deduction made later is for that portion which was included in the copper made from these ores in German metallurgical works and included in the home production.

By far the larger part of the German production is from the mines of the Mansfeld Company. The output of those mines was 18,248 tons in 1897 and 18,335 tons in 1898, an increase of 87 tons only. From the smaller works a considerably increased production is reported for 1898.

The imports of copper in manufactured forms, including machines in which copper is used for some parts, reached a total of 2,243 tons, against 1,606 in 1897. The exports of copper in such forms were 36,724 tons, against 33,091 tons in 1897. These figures are not included in the table above. This copper was, of course, in a great variety of forms, as copper enters into the construction of many machines in which iron and steel are the chief materials. The principal manufactured forms exported were sheets, wire and copper utensils, such as pans, kettles and other wares.

The total consumption shows the fair, but not large increase of 5.4 per cent. This is very much less than would be supposed from earlier statements; and is another proof that the actual consumption of copper in 1898 was not so great as many have believed, and as has been asserted with a view to influencing the trade.

ELECTRIC POWER TRANSMISSION.—Electrical power transmission is the most important branch of electrical engineering in Japan, says the London "Electrician." Mountainous as the country is, it is very easy to obtain power for generating electrical energy. A typical installation is to be found in Kioto, where water is conducted through several miles of canal from the famous Lake Biwa. An aggregate of 3,000 H. P. is brought from the lake to the power house, and is used for lighting, traction, spinning, weaving and various small industries. Another plant, at the Ashio Mine, was installed by Messrs. Siemens & Halske, and is used for pumping, winding and the locomotion about the mines. A dozen or more mines in the neighborhood are working by electricity, and quite as many are in course of construction. The application of electric power to the driving of workshops and factories is also very popular in Japan. New overhead cranes are mostly driven by electricity, as, for example, in the Osaka Arsenal, in the Kawasaki Dock Yard and in the Imperial Steel Works.

EAST HEADING, 125-FT. LEVEL, JOHN JACKSON ZINC MINE, MISSOURI.

EMERALD MINING IN RUSSIA.—The "Novoe Vremia" of St. Petersburg has the following interesting account of emerald mining in Russia: Emeralds, some of which are very fine, are found in the district of Ekaterinburg, along the banks of the Tokova River, about 52 miles from the capital of the district. Mining for this precious stone commenced in 1841, and at the beginning gave very good results. The first emerald was found by a peasant named Maxim Kojevnikow, in 1839, while he was examining the roots of a tree which had been uprooted by a storm. It is pretty certain, however, that discoveries of the same kind had already been made in 1669. It is even possible that finds had been made prior to them, as the Czar Boris Godounow presented the Venetian engraver, Francis Ascentini, with a sable fur and 100 ducats for having cut a large emerald for a ring. The finest emeralds were found when these stones were being mined for the account of the Government. During this period, that is up to 1862, 5,600 poods were extracted. The Government afterward farmed out the mines to private parties, who were not successful. The emeralds of superior quality have been found near the surface of the soil, while those found in deep ground were of inferior quality.

ABSTRACTS OF OFFICIAL REPORTS.

National Lead Company.

The report of this company for the year ending December 31st gives no statement of gross earnings nor amount of business done. The financial statement, which covers net earnings only, is as follows:

	1897.	1898.	Decrease.
Net earnings for the year	$1,532,376	$1,241,838	$290,538
Dividends, preferred stock	$1,043,280	$1,043,280	.....
" common stock	149,054	149,054	.....
Totals	$1,192,334	$1,192,334	.....
Surplus for the year	$340,042	$49,504	$290,538

The balance sheet shows, by comparison with that of 1897, increases of $4,195 in investment in plants; $180,101 in cash; $200,969 in notes and accounts receivable. There were decreases of $13,507 in accounts payable; $315,004 in stock on hand, and $5,264 in investments.

No charge for depreciation in plants has been made since 1896. The surplus carried over from 1897 was $944,711; adding the surplus for the year shown above makes the surplus at the close of 1898 amount to $994,215.

President Cole adds the following remarks: "A lesser volume of business was done in 1898 than in the year preceding, and the hopeful trade prediction made in the last annual report was not realized. With the breaking out of war with Spain at the season when our products are in greatest demand there was a marked suspension of building operations and improvements along our populous seaboard and a consequent shrinkage in demand. These conditions were partially reflected in all the country east of the Mississippi River, and before hostilities ceased, with the success of our arms, the season had passed. The diminished volume of business excited a more strenuous competition, but earnings show that profits were not sacrificed, and we continue to enjoy the confidence of customers with whom we have so long maintained trade relations.

"The amount of net earnings ($1,241,838) is reached after a conservative inventory and careful exclusion of doubtful accounts and values. Liberal expenditures for maintenance and repairs were made in the period under review and charged to current expenses. The cost of manufacture, administration and selling has been reduced by economy and concentration without sacrifice of quality in the product or effectiveness in its distribution. The trade for the first month of 1899 leads us to expect an increased business for the year."

Isle Royale Consolidated Mining Company, Michigan.

A report issued by this company gives a summary of operations up to the close of 1898. The financial statement is as follows:

Received from subscriptions		$1,000,000
Received from interest		22,709
Total receipts		$1,022,709
Total expenses to Jan. 1st, 1898	$55,143	
Total expenses during 1898	122,520	
Total expenses		177,663
Balance on hand Jan. 1st, 1899		$845,046

Superintendent W. E. Parnall's report says: "As a report of the work done for the year ending December 31st, 1898, it is difficult to formulate anything that would constitute a systematic order of mining operations, from the fact that up to this time very little has been done outside of sinking Nos. 1 and 2 shafts. No drifting has been done, for the reason that to drift with the equipment now at the mine, or, rather, the equipment installed to date, would mean the stopping of sinking, which, up to a given amount, was the best policy to pursue. It is needless to say here that where tributers have had unrestrained liberty to work anywhere they saw a chance to produce copper for so long a time as they did in the old Isle Royale and Grand Portage, little of value in sight would be left behind, and the spoliation of shafts and levels is always the inevitable consequence. We have found no exception to this rule, and hence the cleaning out and retimbering of the old have been much more tardy and expensive than the sinking of the shafts in new ground. Happily the old is done with, and to date both shafts are at the eleventh level, and will soon be on the way to the twelfth, where, for a year at least, they can stop and await the result of drifting. To get to the twelfth level with both shafts will take until April 20th. The sinking in new ground to December 31st is as follows: No. 1 shaft, 538 ft.; No. 2 shaft, 236 ft. By April 20th there will be practically six levels at each shaft, in which drifts can be started in virgin ground. Thus 24 drifts can be in operation on or before May 1st.

"To date the operations have been confined to cleaning out and sinking the shafts to a sufficient depth where more extensive operations could be followed. With a view to this, a new compressor has been purchased, and is now being put in place at No. 1 shaft. This, with a small compressor at No. 2 shaft, now in operation, will answer all purposes for all the opening work. A new steel structure was completed a few weeks since, in which will be erected the above new compressor, and also a new cone and straight face hoist, which is now under contract to be delivered in July next. The hoist is designed for a depth of 6,000 ft. A new boiler house, which will be of stone and steel, also four new 84-in. firebox boilers, are under contract, and will be ready for duty in early summer. A similar hoist will be needed for No. 2 shaft and should be contracted for at an early date. This, with the necessary rock and shaft houses, would constitute efficient and permanent equipments for both shafts. It will be necessary the coming summer to add to the mine buildings such as the current needs require, but nothing further.

"A few months' drifting on the scale that can be taken up after drifting commences will furnish a better index to further expensive outlays than can at this time be anticipated. So far the shafts in the new ground sunk through give promise of good results. If the drifts open up as good there will be no danger for the future."

Baltic Mining Company, Michigan.

The first annual report of this company covers its operations for a period of 13 months, from December 1st, 1897, to December 31st, 1898. The financial statement shows that the receipts were as follows: Assessment No. 1, payable January 12th, 1898, $100,000; No. 2, payable October 27th, 1898, $96,695; interest received, $462; sales of 25,000 lbs. of copper, $3,082; total, $200,239. Expenditures were: Expended at mine, $129,406; advanced Atlantic Mining Company, for construction of railroad to Baltic Mine, to be repaid by transportation of rock, etc., $25,502; freight, smelting and brokerage, $418; general expenses, $3,574; salaries, $1,625; total expenses, $160,528. The balance on hand at the close of the year was $39,711; balance due on No. 2 assessment, $3,305; making net available surplus December 31st, 1898, $43,016.

President Stanton says: "The company took possession of the mine December 1st, 1897. As soon as the snow was gone, the construction of an extension of the Atlantic Mine Railroad was begun, and in July we were able to commence transporting lumber and building materials and machinery. The opening of the mine by sinking shafts and driving levels is now progressing satisfactorily, and we expect soon to begin regular production by the use of one head of stamps in the Atlantic stamp mill, which has been set apart for our use. The rock to be stamped will be mainly drawn from the vicinity of No. 3 shaft. The openings made on the lode up to this time seem to promise good returns in the stamp mill, but until an actual test shall be made it is not possible to make a correct estimate of the average yield of the rock. As all of the openings thus far made show copper in notable quantities, we anticipate favorable results when regular stoping shall prove the character of the entire lode."

Superintendent Frank Stanton says that total sinking for the year amounted to 498 ft., No. 1 shaft being now down 182 ft.; No. 3, 149 ft.; No. 4, 125 ft.; No. 5, 62 ft.; and No. 6, 66 ft. Total drifting amounted to 2,602 ft. Shafts Nos. 3, 4 and 5, which are 10 by 24 ft., with three compartments, are located for permanent work. No. 1 shaft is temporary, and No. 2 shaft has been abandoned solely on account of its location. There are now 30 buildings on the property.

On January 1st, 1898, the exploratory drift made by the Atlantic Mining Company on section 16 had been driven to their southern boundary line. This was continued 671 ft. by the Baltic Mining Company without finding anything of value. The end of the drift is now in trap rock. The Baltic belt has been exposed for an extent of 2,793 ft. along the line of the formation, with a maximum width of 50 ft. and a minimum width of 16 ft. About 24,000 tons of material have been hoisted and thrown on the dump pile. The dip of the foot-wall is about 73°. During September and October about 27 tons of barrel work from No. 1 shaft were smelted, and yielded an average of 80.16 per cent. of refined copper. It is impossible to estimate the yield of the rock broken, as the work was all in development.

RECENT DECISIONS AFFECTING THE MINING INDUSTRY.

Specially Reported for the Engineering and Mining Journal.

LIABILITY OF STOCKHOLDERS IN CALIFORNIA.—Under the laws of California a stockholder of a corporation becomes individually liable to each and every creditor of the company in an amount to be determined by taking such a part of each claim as each stockholder's stock is a part of the stock of the company, and an action may be brought against any stockholder, in the courts of any State, where service may be had, to recover the amount due the creditor.—Judson vs. Stewart (7 Ohio Decisions, 532); Court of Common Pleas of Ohio.

SERVICE ON STOCKHOLDERS OF INSOLVENT COMPANY.—Where a petition shows that a corporation has ceased to do business, is wholly insolvent, and has no property of any kind from which satisfaction of judgment can be obtained, and asks no relief from the company, the stockholders do not stand in the relation of sureties for the corporation, and, the company being merely a nominal party, suit can be sustained in any county where service on any of the stockholders can be obtained.—Hull vs. Standard Coal and Iron Company (7 Ohio Decisions, 527); Court of Common Pleas of Ohio.

CONDITION OF A MINE.—In an action for damages for injuries received in a coal mine by the falling of a piece of slate from the roof, where the miner was at work, it is necessary to show that the injury was "directly" caused by the failure of the operator of the mine to keep the room in a reasonably safe condition, according to the nature of the business. Where, from the nature of the work, the condition of the place where the miner works is constantly changing, and the duty of keeping it in a safe condition during the prosecution of the work devolves on a miner and the mine boss, the miner will be deemed to have assumed the risk.—Russell Creek Coal Company vs. Wells (31 Southeastern Reporter, 616); Supreme Court of Virginia.

MINE OPERATOR NOT LIABLE FOR ERROR OF JUDGMENT.—Where a fire broke out in a mine, and the exact location of the fire was unknown to persons on the outside, and if located in one place, it would be necessary for the safety of the miners to operate a ventilating fan; but if located in another place the fan should be shut down, and a person connected with the mine came running to the fan-house, apparently from the mine, and asked that the fan be shut down, and immediate action was required, the mine owner was not liable for the shutting down of the fan by the superintendent, although it afterward appeared that it should have been run, as it was a mere error of judgment.

And a fire of unknown origin in a mine, suddenly started in a place inspected the evening before, not the result of spontaneous combustion or any act imputable to the mine owner, is not in itself proof of negligence.—Hughes vs. Oregon Improvement Company (55 Pacific Reporter, 119); Supreme Court of Washington.

PIERRE-EUGENE SECRETAN.

Pierre-Eugene Secretan, who died at his residence in Paris March 11th, aged 63 years, occupied eleven years ago, for a short time, an exceedingly prominent position in the business and mining world. Up to 1887 his life was comparatively uneventful, although he had secured a good position in the commercial world, was manager of the Societe des Metaux, was known as a successful operator and a dealer in metals on a considerable scale. In the latter part of 1887 he succeeded in forming a syndicate, including the Societe des Metaux, the Comptoir d'Escompte, Andre Girod & Cie. and other houses, M. Secretan himself being the manager. The object of this syndicate was stated to be the regulation and maintenance of the price of copper, and the purchase of the copper produced by such mines as should enter into relations with the syndicate. This syndicate later developed into the famous "copper corner," and its operations extended over more than a year and a half. Its course may best be traced by the price of copper. In October, 1887, Chile bars were sold in London at an average of £44¼ a ton; by December the price had been forced up to £75¾. Through 1888 up to October the quotation was maintained between £77 and £85; in October the maximum was reached at £102 a ton, the average being £100 for the month. Some decline followed, but the collapse did not come until March, 1889, in which month the average price of Chile bars in London was £78. But the syndicate had then reached

PIERRE-EUGENE SECRETAN.

a point where it was unable longer to handle the large quantities of copper thrown on the market, and the banks associated with it could no longer supply the funds required. Payment was stopped; the Societe des Metaux closed its doors and was followed by the Comptoir d'Escompte, while several minor concerns were also broken down. The price of copper fell one-half, and the average for April, 1889, was only £39¼.

A very great sensation was caused both in Paris and London. In Paris, indeed, widespread financial disaster was only prevented by the prompt intervention of the French Government and the Bank of France, supported by Messrs. Rothschild and other influential bankers. M. Secretan was prosecuted and sentenced, on May 28th, 1890, to six months' imprisonment and 10,000 fr, fine, other members of the syndicate receiving minor punishments, the offenses charged being improper use of bank funds to forestall the market.

M. Secretan, whose wealth had been placed at a very high figure, became a bankrupt, and his property was disposed of at public sale. In his prosperity he had been a lavish patron of art, but his financial misfortunes involved the dispersion of all his collections.

In later years M. Secretan returned to business quietly, and interested himself in the metallurgy of copper. He acquired an interest in the Elmore process for making copper tubes, etc., by electro-deposition, and introduced improvements in that process which overcame the original objections to it. He organized the Societe de l'Electro-Metallurgie to work this process in France and other European countries. He was very much interested in his experiments with this and other processes.

Recently it has been reported in Paris that Mr. Secretan was again speculating heavily in copper, and his death caused a reaction in the market. The latest accounts, however, say that this was a mistake, and that he has not been in the market at all.

M. Secretan leaves a widow and three daughters, Mmes. Demmler, Bethmont and Arbola. He was buried in the noted Cemetery of Pere-Lachaise, with appropriate ceremonies, on March 14th.

JEREMIAH HEAD.

Jeremiah Head, who died at Hastings, England, March 10th, was widely known as an iron-master and a writer of ability on technical and economic questions. He was born at Ipswich, England, in 1835, and after some years at school, when 16 years of age he was articled to the late Robert Stephenson, serving 3½ years in the pattern-making, fitting and erecting shops, and the remainder of the 5 years' pupilage in the drawing-office. During the latter part of this term, and for a year subsequent to it, he was engaged in designing and superintending the construction of two compound engines; one of them, for Henry Pease & Company's Priestgate Woollen Mills at Darlington, was fitted for the first time with a parabolic governor controlled by an air cataract. For two years—1857-9—he was employed in rebuilding the iron bridge over the River Wear at Sunderland, under Robert Stephenson and Mr. G. H. Phipps. Later he became connected with John Fowler & Company, of Leeds, and for several years was engaged in the manufacture of steam-plows. In 1863 he founded the firm of Fox, Head & Company, of Middlesbrough, with Mr. Theodore Fox, constructing and working the Newport Rolling Mills, which comprised 42 puddling and 15 other furnaces, employing 600 men, and producing 400 tons of finished iron per week. A special feature was the hammers and plant dealing with larger masses of wrought iron than had hitherto been worked. Mr. Head was not satisfied with the mere production of a given quantity of metal, or

JEREMIAH HEAD.

of wealth. He was imbued with a high conception of the duties of the capitalist, and for several years an industrial partnership existed between the employers and men, with most pleasant results. He sought to improve the condition of the worker, and Middlesbrough, largely owing to his initiation, was the first town in England to apply for the establishment of a School Board after the passing of the act. In 1864 he originated the Cleveland Institution of Engineers, the aim being to improve the productions of the district and extend their use. For three years he served as honorary secretary, which involved much work of great benefit to the district and for three years he continued as unremittingly as president. In 1885 the firm of Fox, Head & Company was dissolved, but he never ceased his connection with Cleveland, a fact testified by his paper on the industries of the district, read at the Middlesbrough meeting of the Institution of Mechanical Engineers in 1893.

Mr. Head continued in the Cleveland District as a consulting engineer until 1894, when he removed to London, and since 1885 he has done a very large amount of work. The Bousfield Iron Works at Stockton-on-Tees were laid out by him, and those of the New British Iron Company, at Birmingham. He was frequently in Norway in connection with iron works there, and on this subject contributed a paper to the Iron and Steel Institute in 1894. He visited Spain several times, examining manganese mines near Santander, coal mines in the Oviedo District, and iron-ore deposits in Santander and Bilbao. But the foreign country with which he was most familiar was America. He visited the United States 10 times, and became impressed with American methods. He travelled about much, was a keen observer, and never failed to profit by what he saw. Indeed, perception and painstaking were dominant characteristics in his nature, and thus it was that his many contributions on American metallurgical engineering are worthy of study. His paper on "American and English Steel Manufacture" startled some of his hearers by telling them how pig iron was made in the United States for $5 per ton less than in Middlesbrough, and steel for an equally large reduction on British costs. He also contributed papers on the coal regions of the Southern States and on the Alabama industries, as well as

a later paper written in collaboration with his son, Mr. A. P. Head, who was a partner with him in his business, on "Lake Superior Iron-Ore Mines." Several of his visits to the United States were taken up with the affairs of the Otis Steel Company, of which he was consulting engineer, and it was largely due to him that the concern, bought by an English company in 1889, has since been reconstructed. He was also consulting engineer of the Alberta Irrigation in Western Canada.

He was in frequent requisition as an arbiter, and on two noted occasions settled disputes between workmen and employers, at Bolckow Vaughan's and the Barrow Steel Works. The Indian Government recently consulted him on the question of developing the Salem deposits of iron ore in the Madras Presidency. From the data furnished him he pronounced against the practicability of smelting the ores on the spot owing to the absence of fuel, unsatisfactory labor, and the competition of English iron delivered there.

He had a ready pen, and was a fluent speaker, and orally and by written contributions added largely to the value of the proceedings of many institutions. Some of the more important of his papers have been referred to; note should be made also of his address as the president of Section G of the British Association in 1893, when he dealt with mechanical science as exemplified in nature. Of the Institution of Mechanical Engineers he became a member in 1869, was elected a member of council in 1874, a vice-president in 1880, and occupied the presidential chair in 1885-86, when he delivered an address on steel, then coming into favor for all purposes. He became a member of the British Institution of Civil Engineers in 1872, and has been awarded a Watt medal and Telford premium. He was an original member of the British Iron and Steel Institute, and was associated with several other organizations. Personally he was greatly esteemed, and he has left a wide circle of friends.

MINERAL PRODUCTION IN GREAT BRITAIN.

The advance tables of production of minerals in Great Britain, at those mines which are under the Coal Mines Act, have been published, giving the figures for 1898. These include the coal mines and most of the iron ore mines, but not other metal mines. The figures for the year, as compared with those for 1897, are given below, in long tons:

	1897.	1898.	Changes.
Coal mined	202,119,196	202,042,243	D. 76,953
Clay and shale	122,403	133,110	I. 10,707
Fire-clay	2,682,472	2,783,219	I. 100,747
Iron pyrites	8,545	9,524	I. 979
Iron ore	7,793,168	7,901,046	I. 107,878
Limestone	40,171	38,633	D. 1,538
Oil shale	2,223,745	2,137,993	D. 85,752
Petroleum	12	6	D. 6
Sand	3,249	4,426	I. 1,177
Sandstone and ganister	152,064	111,754	D. 40,310

The changes for the most part are not important. Coal production was practically the same in both years, the decrease in Wales, due to the labor troubles there, having been made up by the increases in Scotland and the North of England. The Cleveland District, Scotland and Staffordshire were the chief producers of iron ore.

The number of persons employed at the mines is reported as follows:

	1897.	1898.	Changes.
Underground	558,306	567,124	I. 8,819
Above ground	136,908	139,770	I. 2,862
Totals	695,213	706,894	I. 11,681

The year was generally one of prosperity in the English mines, a large demand existing in most branches of industry.

The production of mines which come under the Metalliferous Mines Act—which includes all the mines not falling under the coal mines class—is given in the following table:

	1897.	1898.	Changes.
Alum clay (Bauxite)	13,327	12,402	D. 925
Arsenic	4,165	3,896	D. 269
Arsenical pyrites	12,434	13,212	I. 778
Barytes	21,723	21,175	D. 548
Calc spar	4,066	3,230	D. 836
Chalk	2,211	1,878	D. 333
Clay and shale	93,656	86,641	D. 7,015
Copper ore and precipitate	7,352	6,740	D. 612
Flint and chert	2,163	2,313	I. 150
Fluorspar	257	56	D. 101
Gold ore	4,517	703	D. 3,814
Gypsum	117,051	134,195	I. 17,144
Igneous rocks, other than granite	82,525	99,440	I. 16,915
Iron ore	2,216,772	2,167,100	D. 49,672
Iron pyrites	2,038	2,584	I. 546
Lead ore	35,082	32,679	D. 2,403
Limestone	522,576	552,395	I. 29,819
Manganese ore	599	196	D. 403
Nickel ore	300	—	D. 300
Ocher, Umber, etc	2,759	2,835	I. 76
Rock salt	182,078	182,770	I. 692
Sand	4,321	31,130	I. 26,809
Sandstone	246,460	244,306	D. 2,154
Slate	179,808	180,082	I. 274
Soapstone	28	—	D. 28
Tin ore	6,215	7,951	I. 1,736
Uranium ore	30	26	D. 4
Wolfram	125	324	I. 199
Zinc ore	19,278	23,553	I. 4,275

The most important mineral is iron ore; the total output, as given in the two tables above, was 10,068,146 tons, against 10,006,940 tons in 1897, an increase of 61,206 tons only. Of the other metals, zinc ore shows a considerable increase, tin ore a moderate gain, and copper ore a decrease.

The number of persons employed in metalliferous mines was as follows:

	1897.	1898.	Changes.
Underground	19,921	20,173	I. 252
Above ground	13,579	14,058	I. 479
Totals	33,500	34,231	I. 731

The total number of persons employed in and at mines of all classes in 1898 was 741,125, against 728,713 in the previous year.

COPPER DEPOSITS OF NORTH CAROLINA.*

By William B. Phillips.

Recent developments that have been carried on in the southern part of Halifax County, Virginia, and the northeastern part of Person County, North Carolina, have drawn attention to the district. For the past 40 or 50 years there has been more or less prospecting there, and in 1886-87 the Blue Wing Mine was opened and some 500 tons taken out. Prospecting was also carried on at the old Yancey Mine, and in other places in the vicinity. But the reports that were made—some of them by competent men—did not seem to indicate much of value, and the work was suspended until about two years ago. During the last two years a great deal of work has been done, and in all some 225 cars of ore shipped out, most of it going to the Oxford Copper Company for mixing with the Canadian ores. At the Holloway Mine, four miles south of Virgilina, a station on the Atlantic & Danville Railroad, 47 miles east of Danville, Va., and about 157 miles south of east of Norfolk, one of the shafts is down 250 ft., and some 500 ft. of underground work, drifts, and stopes have been completed. At the Blue Wing Mine, three miles south of Virgilina, the shaft is down 165 ft. and stoping is in progress. From both these properties a good deal of rich ore has been shipped, the average copper being about 35 per cent. The Thomas Mine is down 65 ft. and is being carried to the 100-ft. level. This mine is within half a mile of the Holloway, but is working a different seam. Virgilina is on the Virginia-North Carolina line, and prospects shafts, pits, etc., have been sunk on various tracts of land for a distance of 8 miles north and 4 miles south, and many promising seams have been encountered. The ore is a mixture of copper glance, bornite, and copper carbonate (malachite), with now and then a little azurite, and, very rarely, chalcopyrite. The glance and bornite set in near the surface, although most of the ore from the upper levels carries a good deal of malachite.

The country rock is slate, quartzite, and porphyry, belonging to the oldest formations, probably Laurentian, and in places is impregnated with copper-bearing material, apart from the seams themselves. Now and then calcite makes its appearance in the seams, but the ore is carried by quartz. The district is penetrated by the Atlantic & Danville Railroad, running between Danville and Norfolk, the greater part of it lying in Halifax County, Virginia, but the chief developments so far are in Person County, North Carolina, around the Blue Wing, Holloway and Thomas mines. The Lynchburg & Durham Railroad, operated by the Norfolk & Western Company, skirts the district on the west and is about 8 miles from Blue Wing. The chief mines have been hauling ore with wagons to the railroad at Virgilina, 3 to 4 miles over some of the worst roads that can be found, but the Atlantic & Danville has surveyed a spur out to them, and it is stated that the Norfolk & Western will also go in from its Lynchburg & Durham branch. If any business is to be done there a railroad becomes a necessity, for the country roads during a considerable part of the year are indescribably bad.

This district is 157 miles from Norfolk. It is 267 miles from the coking district of Southwest Virginia. The situation as to limestone is not so favorable, and it might be best to secure this from Maryland by way of water transportation to Norfolk, and thence by rail to the mines. The district is well wooded and well watered, the climate is good, and the general conditions of living such as are usually found in the country.

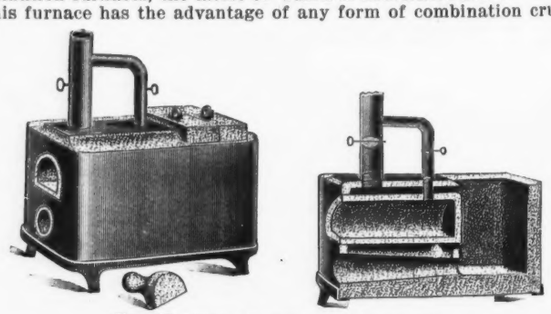
The question of the quantity of ore present and its quality under regular operations can be settled only by further work underground, by keeping assays up to the mine development, and by carrying down drill holes to the depth of 1,000 ft. or more.

*Abstract of article in the "American Manufacturer," March 17th, 1899.

THE HOSKINS COMBINATION FURNACE.

It is desirable, when compactness and economy of fuel is an important consideration, for the assayer or prospector to have his assay furnace as nearly self-contained, portable and convenient as possible. To meet this demand, Messrs. Wm. Hoskins & Co. have put on the market combination furnaces, the latest of which is illustrated here.

This furnace has the advantage of any form of combination crucible and muffle furnace heretofore suggested, inasmuch as the introduction of a cold crucible into the crucible chamber in no way interferes with work in progress in the muffle. It utilizes the surplus heat both in the muffle chamber and the crucible chamber, yet both sections of the furnace are independently and positively heated. The gases and air are thoroughly mixed in the combustion chamber, which, it will be noticed, is tapered, so that crucibles in the crucible chamber are uniformly heated, avoiding the tendency to crack, due to a direct application of the blast. Gold may easily be melted in the crucible chamber while cupellation or scorification is going on in the muffle.



THE HOSKINS COMBINATION FURNACE.

RECENT STAMP MILLS.

We give herewith views of two stamp mills of recent construction, both embodying the latest improvements. Fig. 1 shows a 10-stamp mill built by Fraser & Chalmers, Chicago, for the Athabasca Gold Mine, Limited, at Nelson, in British Columbia. In the view the screen plates are removed to show the stamp shoes. This mill is strongly and substantially built. The shoes and dies are of forged steel and the cams and tappets of steel. The cams are of the Blanton self-tightening pattern, and the mill is provided with sectional guides and friction clutches. There are vanners used to receive the ore from the stamps, as shown in the engraving. This mill was first started on November 10th last, and has run steadily even since with only the brief delays needed to make the first adjustments and the regular stops to clean up. In January it ran 30 days 7 hours without a stop.

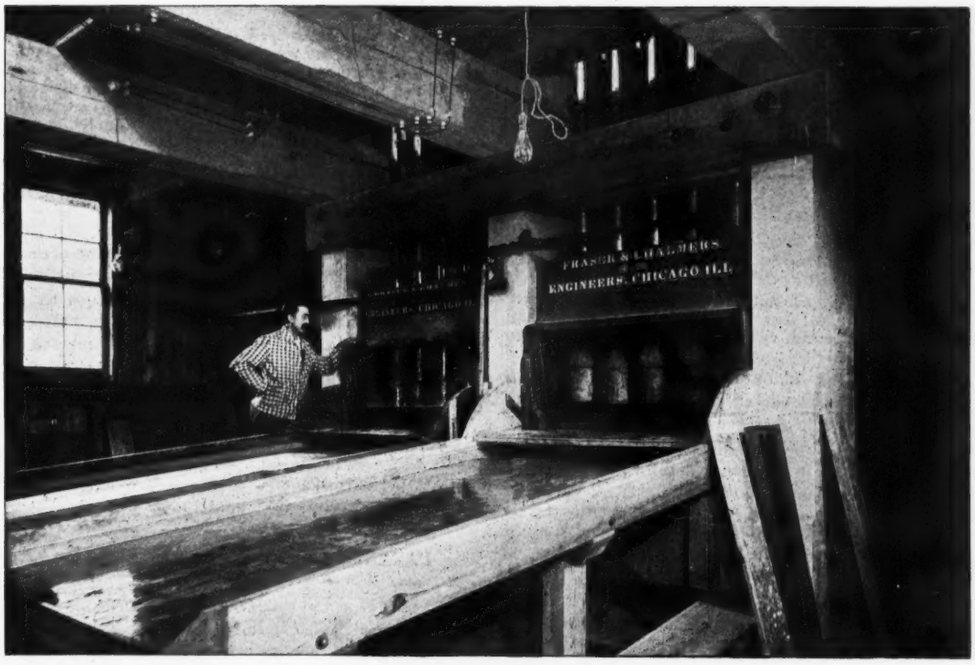


FIG. 1.—TEN-STAMP MILL, ATHABASCA GOLD MINES, B. C.

Fig. 2 shows a 20-stamp mill, also built by Fraser & Chalmers, for the Alameda Mine, in California. This mill has heavy cast-iron baseplates on concrete foundations, the arrangement being the same as in the 520 stamps lately furnished by the same makers to the Alaskan Treadwell and allied companies. It also has the Blanton cams and other recent improvements and labor-saving devices, and is a good example of the latest practice in mill construction.

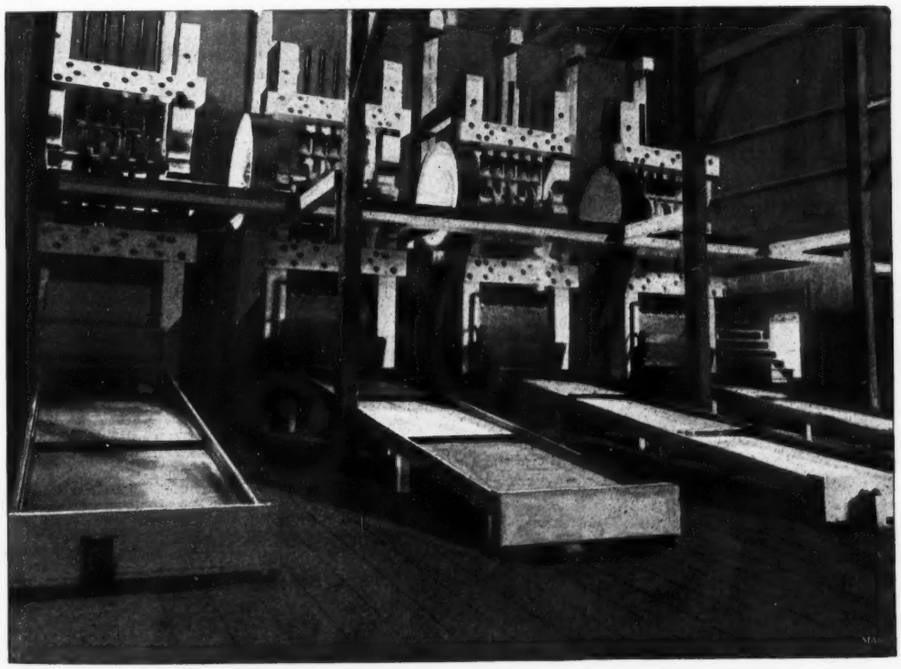


FIG. 2.—TWENTY-STAMP MILL, ALAMEDA MINE, CALIFORNIA.

The general features of these mills are so widely known that no extended description is needed.

COAL OCCURRENCES.—Among the rare instances in which coal occurs in connection with other than the coal measures, M. Demanet mentions the following, says the London "Colliery Guardian:" In the island of Suderoe coal seams are intercalated between beds of basalt or primitive rock; and in Hungary there are coal deposits in the lias, of secondary formation. In the Funfkirchen deposit, especially, the measures contain 25 workable seams, varying in thickness from 0.95 to 3.75 m., extending over an area 15 km. long by 7½ to 9½ km. wide, the net total thickness being 26.6 m. of a coal which, though in small pieces, is very suitable for making coke and gas. Another deposit in the lias is that of Annina-Steierdorf, in the Banat province, containing three workable seams, yielding a coal equal to British. The cretaceous series, also forming part of the secondary formation, contains a few workings of coal in Moravia, though they are of no great importance, and the same formation also contains the Grünbach deposit, near Vienna, 18 of the numerous seams being workable. In the new red sandstone which overlies a portion of the Saar coal-field, three or four coal seams are met with, varying in thickness from 13 to 44 cm. that are partially worked.

QUESTIONS AND ANSWERS.

(Queries addressed to this department should relate to matters within the special province of this periodical, such as mining, metallurgy, chemistry, geology, mineralogy, machinery, supplies, etc. As it is manifestly impossible to devote space to all the questions and notes constantly received, preference will be given to topics which seem to be of interest to others besides the inquirer. We cannot here undertake to give professional advice on problems requiring special investigation and which should be obtained from a consulting expert. Brief replies to questions will be welcomed from correspondents. While names will not be published, all inquirers should send their names and addresses. Anonymous questions will not be answered.—Editor E. & M. J.)

Grand Encampment District, Wyoming.—Can you give me any information regarding district named?—J. P. S.

Answer.—This district is a comparatively new one, but is said by experts who have visited it to have some promising copper claims. The development in the district has been very small thus far. An article on the copper region was published in the "Engineering and Mining Journal," November 26th, 1898; also numerous references will be found in the mining news throughout the year. Nothing has been heard from the district thus far in the present year, because it has been snowed up through the winter and is not yet accessible.

Steel Wool.—I have heard that in America they have a manufacture of "steel wool," made of very fine threads of steel, to work and clean fine wood for furniture, etc. Where can machines for its manufacture be obtained?—E. F.

Answer.—We do not know of any manufacture of "steel wool," in the form of which you speak. There is an abrasive called crushed steel or steel emery which is made in this country (by the Pittsburg Crushed Steel Company), which is used for polishing stone, grinding glass, and as a substitute for emery in making grinding and polishing wheels. This is made by heating pieces of high grade steel to about 1400° C., quenching them in water and then pulverizing, under a hammer, or in a powerful crushing machine. The particles are then tempered and graded according to the size, which determines their use.

Artificial Chalk.—Can you give me any information regarding this article? I have been told that a process has been in operation in Germany for some time, converting 98 per cent. carbonate of lime into chalk, whiting, etc., but can get no further trace of it.—Creta.

Answer.—We cannot find any such article as "artificial chalk" on the market. There is, however, one known in the trade as "precipitated chalk," which is possibly what you refer to. This is prepared in Germany by reducing the raw material to a fine powder, carefully washing it to remove all silica and other impurities, and collecting the pure chalk by settling from the water. It is sold here chiefly for use in medicinal preparations, tooth-powder and other toilet preparations and for other similar purposes. The quantity used is not large; the current price in New York is 4½c. per pound.

Barytes.—What is the price of and demand for barytes? Where are purchasers found?—L. A. S.

2. What are the common impurities in barytes? How are they eliminated? What proportion of impurity destroys the value of the crude ore?—C. E. B.

Answer.—Current quotations for barytes vary according to quality from $7.75 a ton for the lowest merchantable grade up to $15 for the highest, the range depending on the care with which the mineral has been prepared for market. Purchasers are found chiefly in St. Louis and New York, where most of this mineral is handled. The most common impurities are quartz or limestone from the rocks associated with the mineral. Iron stains are also frequently found, and detract from the value of the product, which should be as free from color as possible. In preparing for market it is usual to sort the lump ore by hand. It is then crushed to a coarse grain and then boiled with dilute sulphuric acid to remove the iron stains. It is then washed to remove acid, etc., dried and ground fine. It is finally sorted by "floating" in water, and graded according to its fineness. The finer it is, usually the better the grade and price. As to demand, the production in the United States in 1898 was about 30,000 short tons.

Heating Water by the Sun's Rays.—I understand that some work has been done on the heating of water by the sun's rays through large lenses or mirrors. Can you give me any information on this point? I am figuring on a problem to heat 50,000 gallons of water a day to a temperature of 150° F., as cheaply as possible.—J. J.

Answer.—There have been from time to time patents taken out for heating by the sun's rays, but few or none of them have been of value or practical use. The late John Ericsson began, a few years before his death, some investigations into this subject, and constructed apparatus at his house in New York for the purpose of experimenting in this direction. This apparatus he changed from time to time, but when he died it was still incomplete, nor had he arrived at any conclusive results. His investigations are the only ones of which we are aware that were conducted on scientific lines and promised valuable results. Unfortunately, the subject was dropped when Mr. Ericsson died, and nothing further has been done. Some 10 years ago a Frenchman named Charetier put up a small experimental apparatus near Paris, and great results were claimed at the time; but no practical results ever followed. The plan of utilizing the heat of the sun's rays economically is an attractive one, especially in hot climates like Mexico, and it seems strange that more work has not been done in that line; but so it is.

Brown Hematite Ore.—We have a large quantity of brown hematite (Oriskany) iron ore on our lands, which runs about 25 per cent. lump and the balance wash ore. The lump ore will average 46 per cent. metallic iron, but the wash will not run over 40 per cent., owing to the sand, rock, etc., with it. I think that if, in addition to washing, the ore was crushed, sized and jigged it could be brought up to about the same percentage as the lump ore. Who makes machinery of this kind, and what would be the cost of a plant to handle 100 tons a day?—L. L.

Answer.—The proper answer to your question would depend on a number of circumstances, such as the quantity of ore to be handled, the nature of the impurities to be removed, the supply of water available, etc. The washing of brown hematite ores to free them from clay and other impurities is common; the crushing and concentration is not usual. Your safest course is to secure the advice of a mining engineer who can pass upon the case with full consideration of and reference to all the local circumstances and the probable costs and profits of the work. No general advice would be safe.

As to machinery we could refer you to the Mecklenburg Iron Works at Charlotte, N. C.; the F. D. Cummer & Sons Company, Cleveland, Ohio.; and a number of others whose addresses you will find in our advertising columns. Any of these manufacturers will give you estimates of the cost of plant. It is not safe to put up plant, however, until the questions we have referred to are settled.

PATENTS RELATING TO MINING AND METALLURGY.

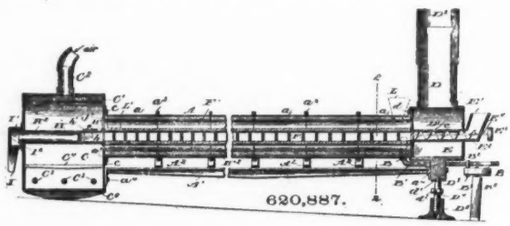
UNITED STATES.

The following is a list of the patents relating to mining and metallurgy and kindred subjects issued by the United States Patent Office. A copy of the specifications of any of these will be mailed by the Scientific Publishing Company upon receipt of 25 cents.

Week Ending March 14th, 1899.

620,882. PROCESS OF TREATING HYDROCARBON OILS FOR REMOVING SULPHUR COMPOUNDS. Arthur J. Boote and Henry G. W. Kittredge, Toledo, Ohio. Assignors, by mesne assignments, of one-third to Francis H. Steel, same place. The method consists in first treating the oil with an alkaline solution of an oxide of lead and then further treating it with a hypochlorite of calcium, and then removing the precipitate.

620,887. OXIDIZING-FURNACE. Horace J. Clark, Denver, Colo. Assignor by mesne assignments, to Ella U. Clark, same place, Clinton D. Bouton, Ithaca, N. Y., and Henry H. Green, Sunshine, Colo. The



combination with a furnace, of a stack, an oxidizing-flue extending between said furnace and stack, retarding devices extending alternately from opposite sides of said flue and means for oscillating said flue.

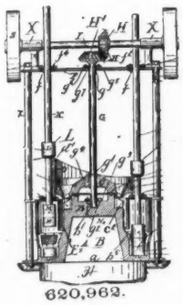
620,894. METHOD OF TREATING HYDROUS ROCK. Archibald A. Dickson, Toronto, Canada. The process of treating hydrous gypsum rock to enable it to be hardened, which consists, essentially, in first dehydrating the rock by the action of heat; second, cooling it gradually; third, subjecting it to the action of a combined mordant and hardening material by immersing it in a single solution of ammonium alum, $Al_2(SO_4)_2(NH_4)_2SO_4.24H_2O$ until the mass has been thoroughly impregnated therewith and the pores filled, and finally drying it.

620,899. SOLIDIFIED PETROLEUM AND PROCESS OF PRODUCING SAME. Martin Ekenberg, Stockholm, Sweden. The method of treating petroleum and its distillates to effect soidification consists in dissolving in the same, under the influence of heat, a soap of the fatty acids of wool-fat and then cooling the mass.

620,925. GAS-PURIFYING APPARATUS. Louis J. Hirt, Brookline, Mass. The combination of a tower provided with a transverse partition-wall forming a chamber above and below it and provided with opening through which the material passes from the upper to the lower chamber, an agitator in the upper chamber, and a breaker for the purifying material co-operating with said agitator.

620,935. METHOD OF RECOVERING CHROMATES FROM TAN LIQUOR. Henrik J. Krebs, Wilmington, Del. The method consits in purifying the liquor by precipitation substantially in the manner described and then precipitating the chromic acid contained in said liquor by a chemical substance containing a metal, which reacting with the chromic acid in the liquor will produce a chromate of such metal as a precipitate.

620,962. ANNULAR STAMP-MILL. Frederick L. Preston, Beloit, Wis. The combination with a mortar-frame provided with a die-chamber, a supporting-frame secured upon or adjacent to said mortar-frame, a plurality of stamps mounted to reciprocate in said die-chamber having stems which rotatively engage said supporting-frame, and tappet-collars on said stamp-stems, of a centrally-arranged wheel mounted to rotate on said mortar-frame provided with a plurality of cam-surfaces engaging the several tappet collars of said stamp



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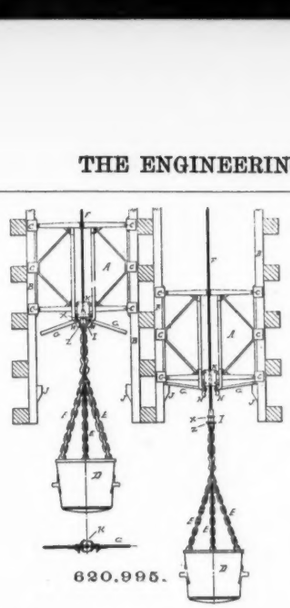


620,995.

stems, the adjacent parts of the collars and cams being provided with beveled surfaces which are inclined to the vertical axis of the wheel.

620,982. ROLL AND TRANSFER TABLE. Henry C. Shaw, Pittsburg, Pa. Assignor to the McKenna Steel Working Company, Milwaukee, Wis. The combination with a roll-table adapted to receive heated rails from a furnace, of a transfer-table extending from the roll-table to a position opposite a roll-train, said roll-train having a plurality of passes therein, means for moving said rail from the roll-table along said transfer-table, mechanism for automatically stopping the movement of said rail as it reaches a position opposite the roll-train, and means for adjusting said mechanism to cause the same to stop the rail opposite any one of said passes in the roll-train.

620,983. BLOWING-ENGINE. Edwin E. Slick, Braddock, Pa. The combination with a cylinder containing a piston, said cylinder having valved heads and being provided with ports near its ends, of means for reciprocating the cylinder over the heads.

620,995. SAFETY DEVICE FOR USE IN SINKING MINE-SHAFTS. George Troutman, Centralia, and Joseph D. Yetter, Wadesville, Pa. The combination of the hinged levers G G having the clutch-hooks H H formed on their inner ends, the double annular ribbed thimble I, the cross-head A, and the stopping blocks J J.

621,029. LOCKING DEVICE FOR SECURING CAMS, PULLEYS, &C., TO SHAFTS. Fernnand M. Canda, New York, N. Y. The combination, with a shaft provided with a projection adapted to engage a wedge, and a device to be secured to said shaft having in its eye a wedge-chamber tapering circumferentially with respect to said eye, and a recess adapted to permit the device to be moved laterally over said projection, or a wedge within said chamber, having a recess adapted to receive said projection, said recess being open at the sides to permit the passage of the wedge.

621,041. ARTIFICIAL FUEL. John T. Davis, San Francisco. A binder for low-grade material, such as lignite, culm and the like, composed of asphaltum, crude petroleum and bituminous coal.

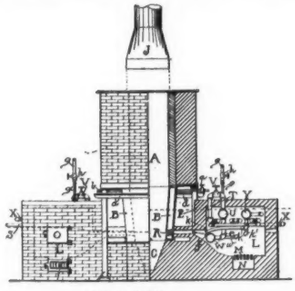
621,048. ELECTRIC STORAGE-CELL. Chaimsonovitz P. Elieson, London, England. A plate for an electric accumulator comprising a series of parallel perforated and corrugated plates, the corrugations of one plate being disposed angularly to those of the next adjacent plates, the exterior plates being formed in one piece bent around the intrior plates and having its ends secured together, channel-pieces embracing the upper and lower edges of the composite plate and provided with sweating-lugs, autogenuously connected to all of said plates.

621,053. COMPOSITION OF MATTER USED IN CLEANING AND POLISHING METALS. William Fitzgerald, Indian Orchard, Mass. A substance consisting of paris-whiting, Prussian blue, and chrome orange.

621,057 ANTI-RUST PREPARATION. Sylvester P. Frost, Quincy, Ill. Assignor of one-half to Sylvester P. Bartlett, same place. A compound consisting of lard, chemically-pure vaseline, pulverized gum-camphor, plumbago or graphite, and Venetian red.

621,084. METHOD OF APPLYING PRESERVATIVE COATINGS TO OBJECTS OR STRUCTURES OF IRON OR STEEL. Henry L. Hollis, Chicago, Ill. The method consists in temporarily inserting the object to be treated in a solution of caustic alkali as an electrolyte, temporarily connecting said object as an anode with a source of electricity, passing an electric current from said source through the iron object and electrolyte, whereby oxidizing conditions will be furnished at the surface of the iron object and oxygen will there be united with the iron to form the protective coating, withdrawing the coated iron object from the solution and subjecting it to an annealing temperature.

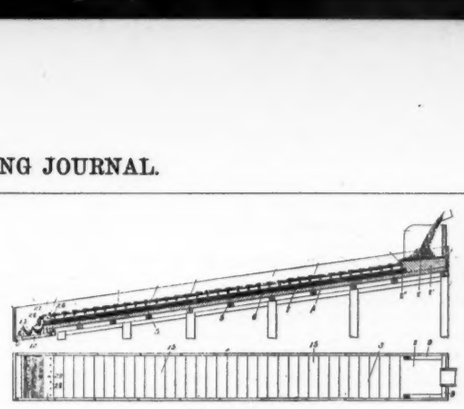
621,088. SMELTING STACK-FURNACE. Charles A. House and Frederick A. Dupea, Tacoma, Wash. A smelting-furnace comprising a set of hydrocarbon-gas generating and combustion furnaces connected with and located on the sides of a stack-furnace, each of said gen-



621,088.

erating and combustion furnaces having each a superheating steam-pipe coil and a superheating air-pipe coil, connections for supplying oil to said coil, a suitable chamber for receiving and mixing the oil and the superheated steam simultaneously, pipes leading therefrom into a discharging-chamber.

621,092 AMALGAMATOR. Albert H. Jocelyn, New York, N. Y. Device comprising a sluice formed of a series of flat, non-pan-formed amalgamating-plates disposed in position to form a stepped surface to permit the free passage of water thereover, one plate overlapping and interlocking with another, and each plate readily removable from the series independently of its companion plate, and of a construction,



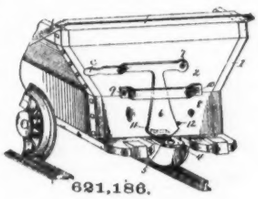
621,092.

and formed entirely of metal suitable to be melted up with the amalgam attached thereto.

621,121. ANODE. John T. Morrow, Great Falls, Mont. An anode, consisting of impure copper and one or more loops of sheet metal, both the ends of which are secured, by casting, in the impure copper.

621,150. PROCESS OF MANUFACTURING ACTIVE COMPOSITION FOR SECONDARY AND PRIMARY BATTERY ELEMENTS. Alexander Schanschieff, London, England. A process for the production of active-material compound for battery elements consisting in intimately mixing finely-powdered carbon with formic acid, tartaric acid and sulphuric acid, when the mixture has cooled adding the active material and when cooled making the mixture into a dough-like paste, with sulphuric-acid solution, whereby the paste after it has dried and been formed is in a highly-porous condition and has its pores filled with highly-porous gas absorbent and conductive matter.

621,126. DUMP-CAR. Thomas V. Wallace, Monongahela City, Pa. The combination with the end-gate pivoted to the sides of the car at the upper end thereof, and having a central slot or cut-away portion at the lower edge, and the draw-bar provided with a stop-block, of



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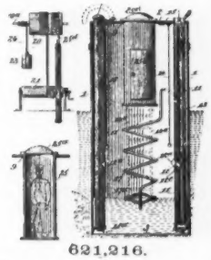
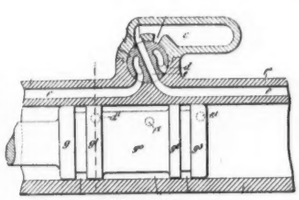


621,216.

the latch comprising the horizontal portion pivoted at one end to said gate, and the other end bent outwardly and then horizontally forming a handle and the vertical portion adapted to engage with said stop-block.

621,216. MINING CAISSON. Joseph Buchtel, Portland, Ore. A caisson, comprising a shell open at the bottom and having a feed-port into which air can be forced, removable tubular sections for discharging the collections extending from the top to the bottom of the shell and adapted to be withdrawn through the said top, and suitable valves for closing off the escape of air from the interior.

621,271. ROCK-DRILL. James McCulloch, Portreath, England. The combination with a rotary distributing-valve having a wing or vane and provided with a live-fluid port between two exhaust-ports, of a piston having an annular space between its ends and the wall of the



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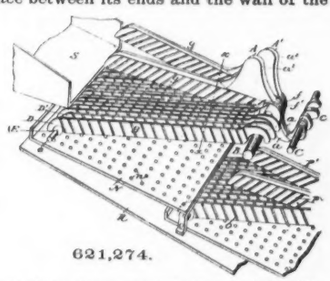

621,274.

cylinder, two live-fluid ports leading from the interior of the cylinder to opposite sides of a chamber in which the wing of the valve oscillates, and an exhaust-port located between the live-fluid ports and in constant communication with said annular space.

621,274. MECHANICAL DISINTEGRATION OF ORES. Daniel O'Keefe, Boston, Mass. Mechanism consisting of hinged rising-and-falling beaters alternately disposed with reciprocating bars, both having oppositely-inclined sides provided with grooves inclined at opposite angles.

GREAT BRITAIN.

The following is a list of patents published by the British Patent Office on subjects connected with mining and metallurgy:

Week Ending February 18th, 1899.

4,911 of 1898. ZINC RECOVERY. H. E. Fry and R. Addie, London. Recovery of zinc from slags.

26,269 of 1898. COKE OVEN. H. Poetter, Dortmund, Germany. Improvements in the method of heating coke ovens from above.

Week Ending February 25th, 1899.

30,673 of 1897. COKE OVEN. A. M. Chambers and J. H. Worrall, Sheffield. Improvements in coke ovens, so that fine dust coal can be used.

3,497 of 1898. BERYLLIUM SEPARATION. L. Liebmann, Berlin, Germany Improvements in the manufacture of metallic beryllium direct from minerals and not through agency of alloys.

9,573 of 1898. ROCK DRILL. E. H. Bourne, Downieville, California, U. S. A. Method of attaching tools to rock drills.

10,321 of 1898. IRON SMELTING. A. Moevius and L. Kokin, Kharkov, Russia. Method of smelting fine iron ores by incorporating with coal dust, pressing into bricks, coking and using resultant coke with the other ores.

11,522 of 1898. WHITE LEAD PREPARATION. T. C. Sanderson, London. Improvements in the method of preparing white lead for grinding in oil.

23,228 of 1898. AMALGAMATOR. J. E. Sutphen, Albany, N. Y., U. S. A. A barrel amalgamator containing a heavy rolling cylinder, which will amalgamate fine and refractory ores.

PERSONAL.

Mr. E. J. Knight, of Providence, R. I., has been in Cripple Creek, Colo.

Dr. George W. Maynard, of New York City, is on a professional visit to Old Mexico.

Mr. Francis T. Freeland of Aspen, Colo., is making a short professional trip to Old Mexico.

Mr. C. D. Gibson of Chicago left recently for Nova Scotia, where he is investigating a gold mine.

Mr. F. B. Lewis, late of Montreal, has gone West, and is established for the present at Northport, Wash.

Mr. W. F. Detert, manager of the Argonaut and Zelle mines of Amador County, Cal., has been in San Francisco.

Mr. Edward H. Coxe, superintendent of the Boomer Coal and Coke Company, now has as his address, Boomer, Fayette County, W. Va.

Mr. Matt W. Alderson, the cyanide expert, has returned to Montana after a lengthy visit to Eastern points, including Nova Scotia.

Mr. Charles Dobier, superintendent of the Brown Bear Mine at Deadwood, Trinity County, Cal., has been on a visit to San Francisco.

Mr. R. D. Grant, general manager of the Parrot Company, has returned to Butte, Mont., from a 6 week's visit to New York and Boston.

Mr. Arthur F. Elliott of Wellston, O., has accepted the position of electrician with the Boomer Coal and Coke Company, at Boomer, W. Va.

Mr. Chas. T. Arkins has been appointed manager of the cyanide mill just completed for the Rose Gold Mining and Milling Company near Victor, Cal.

Mr. C. H. Unverzagt, of Baltimore, Md., accompanied by Mr. Geo. H. Hopper of Salt Lake, Utah, is examining mining properties near Kingman, Ariz.

Messrs. W. S. S. and A. F. Douglas, of England, who are interested in Colorado mines, are in San Francisco, on a tour through the mining districts of California.

Mr. T. Gordon Janney of Philadelphia, Pa., has succeeded Mr. T. F. Van Wagenen as superintendent of the Basic Company's gold dredging plant near Centreville, Idaho.

Mr. James Irving, of the firm of James Irving & Company, assayers and metallurgists of Los Angeles, Cal., has gone to the Randsburg District on professional business. He will be gone 2 or 3 weeks.

Mr. George Mitchell has resigned his position as metallurgist for the United Verde Company at Bisbee, Ariz., to take up the working of some mines at Sonora, Mexico, where he is to erect a 200 ton smelter.

Prof. Walter F. Wilcox, of Cornell University, has been appointed chief statistician of the Census Bureau, and Mr. William P. Powell, of Washington, D. C., is to conduct the examination of applicants for positions under the bureau.

Mr. George C. Lowell of Chicago has gone to Nicaragua to investigate the gold mining property of the Nicaragua Mining and Milling Company of Chicago. If the investigation is satisfactory mining machinery will be quickly ordered.

Mr. Wm. H. Edgar, president of the Dearborn Drug and Chemical Company of Chicago, is in California. After visiting a number of towns in that State, he will go to Honolulu and thence to Japan and the Philippine Islands to further his business.

Mr. Theodore Bredenbach has resigned as manager of the Mikado Gold Mining Company to become general manager of the Toronto & Western Mines Development Company with headquarters at the Sirdar Mine near Rat Portage, Ont.

Mr. E. I. Parsons, who has been constructing engineer for the California Wire Works for the past 10 years, leaves the employ of that company April 1st and takes a position with the San Francisco branch of the John A. Roebling's Sons Company, of which Mr. S. V. Mooney is manager.

Mr. John Q. MacDonald who has just finished the erection of a 70 ton cynaide plant at Victor Cal., has been appointed general manager of the National Gold Extraction Company, that has recently purchased the Kilton Sampling Works at Goldfield, Colo., and the Kilton Chlorination Mill, at Florence, Colo.

Capt. Joseph Sellwood of Duluth, Minn., has resigned his position as superintendent of the Duluth & Iron Range Road, that he has held for about 10 years. He formerly worked the great Chandler Mine at Ely, has been closely connected with the Minnesota Iron Company, and is known as perhaps the most brilliant and successful mining man in the Lake Superior Region. He began working in a mine 36 years ago, when a boy, and has had charge of properties on all the iron ranges but the Menominee. He was the first man to see and work out the economies of heavy production, and has probably done more than any other one man to bring Lake Superior mining methods to their present high standard. Every property worked by the Minnesota Iron Company to-day, except the original Soudan mines, was his selection and purchase. He will continue work on the Mesabi, Vermilion and Gogebic ranges.

OBITUARY.

Frank Carter died at Pottsville, Pa., on March 22d, aged 65 years. In the early 50's he took charge of the coal lands controlled by the Philadelphia & Mahanoy Coal Company. In 1859 he laid out the town of Mahanoy City. When the Philadelphia & Mahanoy Coal Company sold out to the Philadelphia & Reading Coal Company upon its organization, about 1871, Mr. Carter was appointed land agent for the new company and put in charge of all its lands. This position he held until his demise.

Douglass Stroutt Galton, a distinguished English engineer, died in London March 10th. He was born in Droitwich, Worcestershire, in 1822, graduated from the Woolwich Military Academy and was engaged several years in ordinance work. In 1850 he took up railway work, and in 1856 was appointed secretary of the railway department of the Board of Trade. In 1878 he conducted an exhaustive series of experiments on automatic brakes. He became interested in submarine telegraphy about 1860, and was a member of the consulting committee appointed in connection with the 1865 cable. He is best known as a writer on sanitary engineering, and was one of the founders of the Sanitary Institute in 1876. He occupied many government positions during his life and served his country well. He was knighted in 1887.

SOCIETIES AND TECHNICAL SCHOOLS.

Iron and Steel Institute of Great Britain.—The annual meeting of the society will be held in London at the Institution of Civil Engineers, Westminster, on May 4th and 5th, 1899. The President-elect, Sir William Roberts-Austen, will deliver his inaugural address, and papers promised by Professor J. O. Arnold (Sheffield), Mr. H. Bauerman (London), Mr. E. Disdier (Bilbao), Messrs. Jeremiah and A. P. Head (London), Baron H. von Juptner (Donawitz, Austria), Professor H. Louis (Newcastle-upon-Tyne), Mr. Bertrand S. Summers (Chicago), and Professor Wiborgh (Stockholm), are expected to be read and discussed. The annual dinner will be in the Hotel Cecil.

Montana Society of Engineers.—At the meetin in Butte on March 11th 23 members and 3 visitors were present. Messrs. Winfield J. Flood of Butte and William Zasche of Butte were elected members. A vote of thanks was tendered Mr. E. H. Wilson for his energetic endeavors, in the State assembly, to pass the bills providing for a standard of measurement for water by defining the value of a miner's inch, and the estalblishment of the office of State Engineer.

Mr. F. W. Blackburn, ex-city engineer of Butte, read a paper on "Development of Roads and Street Paving," followed by a paper from Clar. W. Swearingen, city engineer of Great Falls, relative to "Experience in Paving in Great Falls." In the discussion which followed, the members generally agreed with Mr. Blackford that properly constructed wooden blocks and asphalt pavings were the best under the most trying conditions. The next meeting will be in Helena on April 8th.

Engineers' Club of Philadelphia.—At the meeting on March 18th 56 members and visitors were present. Prof. J. B. Johnson read the paper of the evening on "The Fruits of Sanitary Science." Modern sanitation may be said to date from 1863, when the English poor law commissioners instituted an inquiry into the health of towns. The first of the State Boards of Health in this country was organized in Massachusetts in 1869. Infectious diseases (from which about 40% of all deaths are due) are now acknowledged to be caused by bacteria, carried either in the air or in food and drink. Injurious bacteria in surface water can be removed by filtration through fine sand. The method of preventing the pollution of streams by filtering the entering sewage was explained, and it was stated that modern sanitary science could ensure a pure supply of drinking water. The importance of proper ventilation and cleaning of rooms occupied by large numbers of people was also dwelt upon. At the conclusion of the paper, its subject was discussed by Messrs. Wm. Copeland Furber, Chas. Hewitt, J. W. Ledoux, Edgar Marburg, Mansfield Merriman and others.

INDUSTRIAL NOTES.

The American Tool Works Company of Cincinnati, O., is shipping a 30x36 ft. shafting lathe to St. Petersburg, Russia.

The American Emery Wheel Works, of Providence, R. I., recently received an order for $8,000 worth of emery wheels and grinding machinery from Germany.

The C. D. Prescott Company, manufacturer of saw mill and mining machinery, has removed its offices from the Fisher Building to the Monadnock Building, Chicago.

The business of H. K. Porter & Company, of Pittsburg, Pa., builders of light locomotives, is to be taken over by a new incorporation, the H. K. Porter Company.

The firm of Howe & Juessen, Mining Engineers of Spokane, Wash., has enlarged its quarters. Both members of the firm are at present in British Columbia examining mines.

The El Paso (Tex.) Foundry and Machine Company has nearly completed a large gas plant for the Arizona Copper Company, and is to build another for the Detroit Copper Company.

The Pacific Coast Pipe Company of Los Angeles, Cal., has received an order from the Santa Fe Railroad for 2,000 ft. of 14-in. pipe, to be used at the coast oil fields. The company has orders ahead for 7,000 joints of pipe.

The Machinery and Electrical Company of Los Angeles, Cal., reports a steady and active demand for ore buckets, ore cars, hoists, etc. The company anticipates larger orders in the future from the present activity in California mines.

Bellefonte Furnace at Bellefonte, Pa., idle since 1893, is to be started again. The stack is 70 by 16 ft., is owned by the Bellefonte Furnace Company of Philadelphia, and has a capacity of 100 tons daily. Pittsburg men are interested.

On March 20th, at the Duquesne Steel Works of the Carnegie Steel Company, the converting mill made 221 heats, producing 2,139 tons of steel. On the following day, March 21st, there were 237 heats, and 2,268 tons of steel were turned out.

The Mexico Mine and Smelter Supply Company is now receiving machinery in Mexico City, at its handsome building at Puente de San Francisco No. 16, where a complete stock of mining, milling and smelting machinery will be shown. Such a company has long been needed in Mexico.

The Warden Acetylene Gas Company of New York City, has been incorporated, for the manufacture of gas machinery, with a capital of $125,000. The incorporators are David R. Warden, Pittsburg; Edward J. Fenlon, New York; Wm. A. Newell, Flushing, L. I.; Frank A. Wunder, New York.

The laboratories of the Dearborn Drug and Chemical Company of Chicago now occupy 4 large rooms, and all the latest appliances for determination purposes are installed. The company reports much success among mines, smelters etc., with its boiler compounds, the mining business increasing 25% each year.

The Seattle Coal & Iron Company, of Seattle, Wash., has been reorganized, and will be known as the Issaquah Coal Company with a capital stock of $1,500,000. John B. Allen is president, Charles Power secretary and treasurer, and Leslie Wilson manager. The first meeting of the stockholders will be about May 1st.

The Lacy Manufacturing Company of Los Angeles, Cal., has been awarded the contract for the pipe, etc., for the Mount Whitney Power Company's plant at Visalia, California. The head at the lower end of the pipe line will be from 1300 to 1400 feet. This company is also erecting a new plant for the Redlands Electric Light and Power Company at Redlands, Cal.

E. A. Uehling, of Pittsburg, has returned from Europe, where he placed his pig iron casting machine with the Alpine Montan Industrie Gesellschaft and with the Prager Eisen Industrie. G. H. Ginther, agent of the Uehling method, has contracted with the National Steel Company to put in a 1,000-ton plant at the Aetna-Standard furnaces.

A company is being formed in Pittsburg, Pa., to control the manufacture of a pig iron casting machine under a patent granted to R. W. Davies, of the Aetna Foundry and Machine Company, Warren, O. The machine has a rotary frame, carrying on its periphery molds arranged radially, these molds being made to tip as they pass a given point.

The Mine & Smelter Supply Company of Denver, Col., is building seven Argall 4-tube roasting furnaces, of 50 tons daily capacity each, for the Economic Gold Extraction Company at Victor, Col., and is putting in Wilfley concentrat-

ing tables to handle the chlorination tailings of the reduction works of the National Gold Extraction Company at Florence, Col.

The contract for the additional pumping equipment for the Bissell's Point Station, near St. Louis, Mo., has been let to the E. P. Allis Company, of Milwaukee, Wis. There are to be 3 pumping engines of the triple expansion crank and fly-wheel type, each having a capacity of from 20,000.000 to 30,000,000 gal. daily. The price bid by the Allis Company was $272,000.

The Connellsville Machine and Car Company of Connellsville, Pa., is constructing a 24 by 12 by 36 in. mine pump for the Paul coke plant of W. J. Rainey. The same company is building 2 double standard larries for the Hostetter Connellsville Coke Company and 40 mine wagons with drop bottoms for W. J. Rainey, for the Elm Grove plant. The company has also orders for a number of mine wagons for Brown & Cochran, and large orders for pit car wheels.

The Laidlaw-Dunn-Gordon Company of Cincinnati, O., has an order for 19 pumps, to go to Russia, and has just contracted two high duty pumping engines for the Lorain Steel Works, Lorain, O.; a compound Corliss air compressor for Doe Run, Mo., and a compound pumping engine to go to the same place. A $30,000 contract with the Monongahela Water Works plant has recently been taken, and a high duty engine has been sold to the Lebanon Furnace Company, Lebanon, Pa.

The United States Cast Iron Pipe Company has completed its organization, and the company has formally assumed control of its properties. The following officers have been elected: President, A. C. Overholt; vice-president, A. F. Callahan; secretary, B. F. Haughton; treasurer, George B. Hayes. President Overholt has been chairman of the National Foundry and Pipe Works, Limitet, Scottdale, Pa., while Mr. Callahan has been prominent in the management of Davis, Long and Company, Louisville.

The consolidation of the mills making hoops and cotton ties is said to be close to a settlement. The consolidated company, which will probably be called the American Steel Hoop Company, will take in the three Pittsburg plants, with three blast furnaces belonging to one of them, one concern in the Shenango Valley, the Youngstown mill, which is to be transferred by the National Steel Company, and the Duncansville works. The relations between the National Steel Company and the American Steel Hoop Company will be close.

A concession will shortly be granted by the Mexican Government to Messrs. Thomas Phillips and Thomas Pratt, of Mexico City, for the establishment in Mexico of works for manufacturing locomotives, rails and rolling stock for railroads, and machinery and implements for industries of all kinds. The concession is applied for under the recent law, which grants exemption from taxation, customs duties, etc., for new industries for a term of years. Messrs. Phillips and Pratt have long been connected with the iron industry of the Republic.

Mackintosh, Hemphill and Company, of Pittsburg, Pa. ,are to build the engines to drive the slabbing mill of the Mariopol-Nicopol Mining and Metallurgical Compani at Mariopol, Russia. One of the engines has 2 cylinders, each 46 in. by 60 in., and weighing about 800,000 lbs. Along with it is a smaller engine with cylinder 26 in. by 30 in. stroke. The smaller engine will weigh over 280,000 lbs. It will require 4 or 5 months to complete the engines, plans for which were drawn by Julian Kennedy. The work of erecting will be done under the supervision of Robert G. Wells.

The South Chicago Furnace Company, with a capital of $300,000, has purchased the Calumet Iron and Steel Company's plant, near South Chicago, consisting of about 60 acres of land, a blast furnace and a rolling mill. The new company expects to have the blast furnace in operation by June 1st. The officers of the company are: William L. Brown, president; D. M. Cummings, vice-president; B. W. Wells, secretary and treasurer, and F. H. Foote, consulting engineer. The directors are William L. Brown, D. M. Cummings, Charles Deering, Walter F. Cobb and Charles H. Foote.

Merchant & Company, Incorporated, of Philadelphia, New York, and Chicago, have recently received an order from the War Department for 786 galvanized "Star" ventilators, for the officer's quarters and barracks to be erected at Havana and Matanzas, Cuba. There will be 587 "Star" ventilators, 24 in. diameter, and 199 14 in. diameter. It is stated that if the ventilators were placed in a line with edges touching, they would cover nearly half a mile. Within the last few months Merchant & Company, Incorporated, have also supplied 500 18 in. ventilators for the new Government Hospitals at Fortress, Monroe and Savannah.

At a meeting of the Pratt & Whitney Company held at Hartford, Conn., March 24th, the following officers were elected: Amos Whitney, president; Rowland Swift, vice-president; Roswell F. Blodgett, secretary, and J. C. Stirling, treasurer. The office of the second vice-president, lately held by George W. M. Reed, was not filled. The treasurer's report showed that the sales for the past year amounted to $1,315,603, a net profit for the year of $82,940. The following are the directors for the coming year: Francis A. Pratt, Amos Whitney, Roswell F. Blodgett, Rowland Swift, William Waldo Hyde, J. R. Refield, George W. M. Reed, Frank C. Sumner, Daniel R. Howe, of Hartford; C. C. Cuyler, A. C. Vaughn and Robert S. Walker, of New York, and T. J. Nicholl, of Rochester. Mr. Nicholl, who is the new managing director, takes the place of Gen. H. J. Morse, of New York, on the Board.

The Harrison Safety Boiler Works, of Philadelphia, Pa., has recently had orders for Cochrane feed water heaters from the Vindicator Consoldidated Gold Mining Company, Independence Col., 300 H. P.; Pressed Steel Car Company, Pittsburg, 5,250 H.P.; American Blower Company, London, Eng., 100 H. P.; Little Rock Traction and Electric Company, Little Rock, Ark., 1,250 H. P.; Jones and Laughlin, Pittsburg, 4,000 H. P.; Union Iron Works, Buffalo, N. Y., 2,000 H. P.; Delaware and Hudson Canal Company, Delaware Shaft, 1,500 H. P., Legget's Creek Breaker, 1,500 H. P., and Dillon and Griswold Wire Company, Sterling, Ill., 1,000 H. P. Separator orders include: De La Vergne Refining Machine Company, New York, 1 5 and 1 4-in.; Carnegie Steel Company, Duquesne Furnaces, 2 14-in.; Armstrong Water Company, Kittanning, Pa., 1 5 in., and St. Joseph Railway Light, Heat and Power Company, St. Joseph, Mr., 2 7-in.

A 24-hour duty test was made recently of the new Allis pumping engine at the Division Street, Cleveland, pumping station. The contract called for a duty of 140,000,000 foot-pounds; should the engine not come up to this capacity, the builder was to forfeit $1,500 for each 1,000,000 foot-pounds, and for every 1,000,000 foot-pounds over stated capacity a bonuse of $500 was to be awarded. The test showed 160,000,000 foot-pounds, an excess of 20,000,000, thus entitling the E. P. Allis Company of Milwaukee, Wis., to a bonus of $10,000. Among orders recently received by the Allis Company was one from the Alabama Steel and Shipbuilding Company for a large rolling mill engine, 52 by 60 in. cylinder, for the steel works at Birmingham, Ala., and another for an engine for the Metropolitan Street Railway Company, of Kansas City, and an order from the New Orleans and Carrollton Street Railway Company, of New Orleans, for a 1,200 H. P. engine for electrical work.

The Federal Sewer Pipe Company has been projected with a capital of $25,000,000, half of which is to be 7% preferred stock and half common stock. The plants to be taken over include the Standard Sewer Pipe Company, Buffalo Sewer Pipe Company, J. V. Rose, Patton Clay Company, Pennsylvania Sewer Pipe Company, Buckeye Sewer Pipe Company, Harry Thompson, Crown Fire Clay Company, Uhrichsville Fire Clay Company, Diamond Fire Clay Company, Great Western Fire Clay Company, Ohio Valley Fire Clay Company, P. Connor, Freeman Fire Clay Company, J. Lyth & Sons, Knowles, Taylor & Anderson Company, Myers, Hartford Company, Toronto Fire Clay Manufacturing Company, McElfresh Clay Company, Bennet Sewer Pipe Company, Grand Ledge Sewer Pipe Company, Rochester Sewer Pipe Company, Pittsburg Clay Manufacturing Company, Sharon Clay Manufacturing Company, Lock Haven Clay Works, Akron Sewer Pipe Company, Robinson Bros. & Company, Hill Sewer Pipe Company, National Sewer Pipe Company, J. J. Mazurie, Buckeye Fire Clay Company, Columbia Sewer Pipe Company, John Francys, Sons & Company, the Kennedy-Kling Company, Calumet Fire Clay Company, Empire Fire Clay Company, N. U. Walker Clay Manufacturing Company, Ohio Vitrified Pipe Company, Cincinnati Sewer Pipe Company, State Line Sewer Pipe Company, McMahon, Porter & Company, Goucher, McAdoo & Company, Jackson Fire Clay Company and Summit Sewer Pipe Company.

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GENERAL MINING NEWS.

ARIZONA.

Gila County.

Old Dominion Copper Mining and Smelting Company.—At the company's mines near Globe, a new Nordberg-Corliss compound condensing pump has been put in at the 12th level, which has a capacity of 500 gal. per minute against 1,000 ft. head. A new hoist is also to be supplied by the Nordberg Manufacturing Company of Milwaukee, Wis., capable of sinking 2,000 ft. In the remodeled ore house is a new crusher and an old one both driven by a 14 by 32 Nordberg-Corliss engine. The engine room has also been remodeled, and a new 22 by 30 Nordberg-Corliss engine and a No. 7 Connersville blower will soon be installed. S. A. Parnall is superintendent.

Pinal County.

Drowned King Mining Company.—In the Christian County, Ill., Court, Orrin Place, of Chicago, has brought suit against the company which owns a gold mine near Prescott, asking for an accounting and the appointment of a receiver. Place and George P. Harrington are reported to be the principal stockholders.

CALIFORNIA.

Amador County.

(From Our Special Correspondent.)

Central Eureka.—At this mine south of Sutter Creek, the vein has been cut at the bottom of the shaft at a depth of 1,160 ft., and several hundred pounds of ore, estimated to be worth over $5,000 per ton has been taken out. This vein, said to be a regular contact vein, is in the center of the company's ground. Since 1896 over $100,000 has been expended in development work.

Calaveras County.

(From Our Special Correspondent.)

Angel.—This old mine at Angels Camp, adjoining the Utica mine on the north, which has been shut down about 8 years, is to be re-opened by the owner, J. V. Coleman. A large force of men will be employed and the electric power will be furnished by the California Exploration, Limited.

Ford.—During the past year a large amount of development work has been done at this mine ½ mile east of San Andreas. The main shaft was sunk to 750 ft., and crosscuts and drifts run on the 700 ft., where the south drift from the east crosscut shows ore resembling that found on the 300 and 400 ft. levels. In the west crosscut where a large body of water stopped work over a month, drifts were run on the hanging wall north and south about 30 ft. in good ore. The sulphurets in all these openings run from 5% to 10% of the ore The Union Iron Works of San Francisco has completed a 10 stamp mill, four 6 ft. concentrators, and a crusher, all operated by a 50 H. P. electric motor, power being secured from the California Exploration, Limited. The management intends to mill all the low grade ore. C. B. Ford is Superintendent.

Melones.—Extensive improvements are contemplated on this property at Robinson's Ferry. It is stated that a 120 stamp mill will be erected, and work on the 4,000 ft. tunnel started. The company also intends to build a flume 2½ miles long to bring in water for power from the river. A large number of men will be employed.

Petticoat.—There are now 3,000 tons of good ore on the dump at this mine, at Railroad Flat, which will be hauled 1 mile to the Loftus Mill to be crushed. C. W. Lindsay is Superintendent.

Del Norte County.

(From Our Special Correspondent.)

Golden Crown Mining and Milling Company.—This company is developing a promising copper property comprising 80 claims lying within 20 miles of Crescent City. W. F. Gridet is superintendent.

Inyo County.

(From Our Special Correspondent.)

Coso Cyanide Company.—This company has purchased the mill site and water right formerly owned by Reddy & Company, and the San Jose Mine in the same district, about 8 miles southwest of Darwin, besides 3,000 tons of tailings, near Darwin. The first run of 200 tons is said to have averaged over $12 per ton.

Los Angeles County.

(From Our Special Correspondent.)

Red Rover.—Extensive improvements are contemplated at this mine, 3 miles northwest of Acton. A new hoisting plant will be erected, the mill enlarged to 25 stamps, and a large reservoir constructed above the mill. High grade ore has been milled from the 300 ft. level, the last cleanup of 125 tons yielding $1,500. W. R. Shilling is Superintendent. The shaft is to be sunk to the 1,000 ft. level.

Madera County.

(From Our Special Correspondent.)

Gambetta.—This old mine, 14 miles south of Raymond, in the Potter Ridge district, has been

reopened under the management of S. Hopkins. The old shaft down 700 ft. is being enlarged and will be continued to the 1,200 ft. A 10 stamp mill and a hoisting plant are being erected and other machinery put in. The vein is small but carries high grade ore. A large amount is said to be in sight.

Marin County.

(From Our Special Correspondent.)

Golden Crown Mining and Milling Company.—This company's property on the Wilkins & McCurdy Ranches north of Bolinas Bay, comprise 2 parallel veins. These veins are wide and some of the ore on the hanging wall is said to assay 12% copper, 12 oz. silver, and $15 gold per ton, while the body of the vein is said to go about 4% copper, 4 oz. silver and $2.50 gold per ton. The works, 1 mile from deep water, consists of a steam hoist and a 100 ton concentrating plant in course of erection. The developments are 2,000 ft. of shafts, drift, etc., the deepest shaft being 400 ft.; about 2,000 tons of ore are said to be on the dump, and 30 men are employed under J. W. Pearson, Jr., Superintendent.

Nevada County.

(From Our Special Correspondent.)

Brunswick Consolidated. — This company cleaned up in January 1,298 oz. gold from the mill plates, 859 oz. from the battery, and a gold bar of 695 oz. The sulphurets received during the month were sold to the Selby Smelting Company for $67 per ton at mine. The December clear up yielded 403 oz. of melted gold; ore milled was 628 tons.

Champion.—Rich ore is said to have been encountered in crosscutting on the 2,000 ft. level. in this mine on Deer Creek, 1 mile west of Nevada City. High grade ore has also been taken from the 400 ft. The 40 stamp mill has been running steadily for a month.

Live Oak & Minuett.—At these mines on Grizzly Ridge, 2½ miles north of Columbia Hill, a 10 stamp mill is being erected. The development consists of 4 tunnels, the longest being 900 ft.

Placer County.

(From Our Special Correspondent.)

Alder Creek Gold Mining Company, Limited.—This company is operating the Van Avery mines comprising 160 acres of patented land about ½ mile from Blue Canyon. A new mill is being erected at the mouth of the tunnel, on the North Fork of the American River; from this tunnel water will be taken. The old mill is run by water from a ditch. The ore body is said to be high grade. The tunnel will cut the ledge at a depth of 2,600 ft.

Southern Cross.—Sidney Smith, of Nevada City, owner of the Bismark & Gladstone Mines, and former owner of the Sneath & Clay Mine has secured an option on this mine, near the North Fork of the American River, 2½ miles from Towles Station. The ledge is from 2 to 10 ft. in width, and is said to mill over $8 per ton. The ore is like that of the Pioneer, of which mine this is an extension. Arrangements are being made to erect a mill and to develop the property by tunnels.

Plumas County.

(From Our Special Correspondent.)

Elizabethtown Gravel Mining Company.—This company has leased 120 acres south of the Loring & Leavitt Mine near Quincy, on which there is a double compartment shaft 100 ft. deep with a tunnel extending 120 ft. towards the channel. The property is equipped with machinery, consisting of a 60 H. P. boiler, 40 H. P. engine, Cornish pumps, etc.

Shasta County.

(From Our Special Correspondent.)

Black Diamond.—This group of copper claims at Stillwater, is being prospected by a German syndicate under a bond. About 20 men are employed under the direction of George Bayha. The ore carries a fair percentage of gold and silver.

Gambrinus.—This mine in Whiskeytown District, will start soon. There are several ledges from a few inches to 4 ft. wide carrying free milling ore. The developments consist of about 500 ft. of tunnels. A drain tunnel will be run below the old workings.

Midas.—This mine at Harrison Gulch, is developed by tunnels on the ledge, which is 2 ft. wide and rich in free gold and sulphurets. The tailings are impounded and the erection of a cyanide plant is contemplated. A. J. Oswald is Superintendent.

Pugh & Menzel.—At this mine, west of Shasta, work on the ventilating shaft is being pushed. There are some 150 tons of ore at the mill, on Clear Creek, and on the dump at the mine.

Washington.—This old mine, 4 miles northwest of French Gulch, is being worked under the management of Charles Symes with good results. The 5 stamp mill runs steadily.

Sierra County.

(From Our Special Correspondent.)

Alaska-Glasgow.—These mines, about ¼-mile northeast of Pike City, are to be re-opened after lying idle for the past 2 years. A great deal of development work has been done in the past, but a large amount of money will probably be expended to put it on a paying basis. Frank Lewis is Superintendent.

Taber.—At this drift mine, ¼-mile south of Gibsonville, the contract tunnel is in 3,000 ft. and will strike the channel, it is thought, within the next 500 ft. This channel proved very rich in the Union and Thistle ground on either side of the Taber.

Siskiyou County.

(From Our Special Correspondent.)

Golden Ball.—The Yreka Mining and Milling Company is working this old property at the head of Eddy Gulch, 5 miles south of Sawyers' Bar. The working force has been increased lately, and 10 of the 20 stamps are running steadily day and night.

Tuolumne County.

(From Our Special Correspondent.)

Densmore.—A large amount of development work has been done at this mine, 2 miles from Parrott's Ferry. The 2-stamp mill on the property is crushing good ore.

Dunton.—This property, near Sonora, has been purchased by George Deane & Company of San Francisco. A crosscut has been run over 60 ft. and, it is thought, the vein will be cut within the next 50 ft. The stringers of quartz already cut show free gold. The main vein was found to be 4 ft. wide in the surface workings.

Golden Gate & Sulphuret.—The main shaft on this property, about a mile southwest of Sonora, is down over 700 ft. The short water supply affected this mine, but the 20 stamp mill is again running on good ore.

Mountain Bell.—It is reported that R. M. Mein and others have purchased this mine, near Soulsbyville the north extension of the old Soulsbyville. A 100-ft. shaft, shows a small rich streak on both the hanging and the foot wall.

Rawhide.—Several additions have been made to the plant at this mine. A large canvass plant to handle slimes has been decided on and a mill for the tailings is to be put in; this will increase the output of the mine about 25%. E. T. Hale is now Superintendent.

Santa Ysabel.—Twenty stamps are to be added to the mill at Stent, and a new hoist is to be put in. Some extensive development work has been done. Electric power is used.

COLORADO.

Boulder County.

Tail Holt.—This property, in Central District, 9 miles from Boulder, was located 12 years ago. A shaft is down 100 ft. with 3 short levels. The vein is said to be 4 ft. thick with a rich pay streak 2 to 12 in. thick containing sylvanite. The owners have organized a company under the laws of New Jersey, of which William Barth is president; W. N. Byers, vice-president, and W. F. Schultz, secretary and treasurer. The treasury stock is to be placed in the East. The company is capitalized at $1,250,000, in shares of $1 each.

Delano Mill.—It is reported that this big plant at Boulder has been taken under lease and bond by the Venango Mining and Milling Company, and that the plant is to start work soon.

Virginia.—This mine at Eldora, is now down 135 ft. The last carload of ore shipped is reported to have given very high values in gold.

Clear Creek County.

Corry City Mining Company.—This company, at Silver Plume, is putting up a new shaft in place of the one swept away on February 12th by an avalanche. A gasoline engine, capable of hoisting 2,000 pounds from 800 ft., is to be tried. There are 18 paying leases giving employment to over 50 men. The ore is reported to run over 400 oz. silver to the ton.

Pelican-Dives.—The lower workings at Silver Plume, worked through the Diamond tunnel, are reported to be yielding well. It is the intention of the company to sink the shaft 400 ft. more. It is now 100 ft. below the tunnel, and has an 18-in. streak of pay ore in the bottom.

(From Our Special Correspondent.)

Mammoth Tunnel.—This tunnel, at Idaho Springs, is being pushed ahead. The Black lode recently cut shows a width of 40 ft. Most of it is mineralized vein matter, some milling, and some smelting ore.

Mt. McClelland Mining Company.—The group of 28 claims and 6 mill sites belonging to this company has been sold to J. H. Robeson, superintendent of the Pelican-Dives mines at Silver Plume; C. K. Wolfe, of W. J. Chamberlain & Company, ore buyers, at Georgetown, and Henry Seifried, of Georgetown. The consideration is known to be nominal. The group is located just above Silver Plume, and the Stevens Mine was worked in the early days of mining there. The total production has exceeded $2,000,000. The ores have carried from 60 to 75% in lead, with silver values ranging from $25 to $200 per ton. Some 14 levels have been driven and one crosscut, the latter for 1,000 ft. The shaft has been sunk 250 ft. below the lower adit. The pay streak is continuous, and is from a few inches to 2 ft. wide. The lower level has cut under the mountain to a depth of 2,000 ft. Mr. Robeson, who becomes manager for the new owners, says that a lot of development will be done and the mine made a producer. H. M. Griffin made the deal for the English owners.

Newhouse Tunnel.—After a year of idleness, work on this tunnel, from Idaho Springs toward Central City, in Gilpin County, is to start. The tunnel is in 7,000 ft., and when completed will be a little over 4 miles long. In this distance it will cut 1,100 known lodes, of which 240 are working mines. Samuel Newhouse having recently made a good turn in the sale of an interest in the Highland Boy, at Bingham, Utah, his English backers have agreed to pay one-half the expense of driving the tunnel. He says that there will be no stop until the Eureka mine at Central City, which will be opened at a depth of 1,000 ft. The deepest workings of the tunnel will be 2,400 ft. Owners of mines along the tunnel have recently made overtures for a working agreement.

Custer County.

Bassick Gold Mines Company.—Work of reopening the old Bassick mine at Silver Cliff progresses slowly. Water has been pumped out to below the 500 ft. level through the new shaft. The old shaft is badly caved, and at the 200 level the old workings have collapsed.

Fremont County.

Copper King—A ½ interest in this claim near Canyon City, which caused so much excitement several months ago by reports of high grade gold ore, has been taken by T. C. Myen of Colorado Springs. There is said to be a well defined lead of ore giving 5% copper, $3 gold and $2 silver per ton. The ore will be shipped to the American Smelter at Canyon City.

National Gold Extraction Company.—This company has purchased the Kilton Sampling Works at Goldfield and the Kilton Chlorination Works at Florence. The plants will be completely remodeled, giving them a capacity of 100 tons per day. Both plants will be in operation by May 1st. John Q. MacDonald will be in charge.

Gilpin County.

(From Our Special Correspondent.)

Altura Mining and Milling Company.—This company has been incorporated to operate in Gilpin, Clear Creek and Jefferson counties with a capital stock of $200,000. The incorporators named are: C. Y. McClure, B. Gregory and J. H. Hallowell, with main office in Denver.

Cook.—Sinking has been resumed at a depth of 740 ft., Manager Colvin intending to go down to 1,000 ft., and put in a Cornish pump. The force has been increased from 75 to 115 men, and the daily shipments average 100 tons.

East Notaway.—The lessees are shipping considerable ore, and one lot from the Eastern gave values of $6,000 per ton, the ore carrying tellurides. G. W. Mabee is agent.

East Whiting.—Iowa and Illinois parties are now overhauling the plant and property before beginning operations. The main shaft is over 400 ft. deep. F. J. Clark has been appointed manager.

Enterprise.—Fort Collins, Colo., parties have taken a lease and bond and will continue developments through the tunnel. Wm. Lane is in charge.

Golden Treasure.—A lift of 100 ft. is to be sunk below the 1,050-ft. level, and connections made with concrete. A. V. Newell is manager.

Hampton.—Reitz & Co. are sinking a new shaft, and at 80 ft. have opened a nice body of smelting ore, carrying values of $75 per ton. Hal Sayr, of Denver, is the owner.

Kelly Mining Company.—The Rialto extension shaft is down 150 ft. Levels will be run at that depth. C. N. Goodlet is manager.

New Gregory Mining Company.—This property, near Black Hawk, was sold on Saturday, March 25th, under a writ of execution, in favor of F. O. Vaille, for $26,448. H. H. Dunham, of Denver, representing F. O. Vaille, made the only bid, $30,000. It was expected that the Cook or Fisk companies might bid.

Notaway.—A heavier boiler and a Snow pump is to be installed in this property by the Notaway Mining Company. About 15 men are working, and the regular shipments of mill and smelting ores continue. J. F. Perkins is manager.

Pierce.—Sinking has been stopped at 305 ft. Daily shipments reach 30 tons; mill ore running 3½ oz. gold per cord; concentrates, $13.50 to $15 per ton, while smelting ore goes $80 per ton. S. Hoskin is manager.

Pyritic Smelter.—The owners of the Geyer

Mine at Pine Creek intend putting up a smelter like the pyritic smelter at Ward, Colo., to treat custom ore, as well as the product of the Geyer. E. Steffan is manager.

Whinnery.—Denver parties are interested, and have opened up a nice streak of pay ore in the 200-ft. level. A new plant of machinery will be put up. Mr. Van Fleet is manager.

Wood.—S. G. Edwards, of Alma, Colo., has been appointed manager of this uranium ore producer. A shafthouse and new plant of machinery is to be put up at once, and the property worked on a bigger scale.

Lake County.

(From Our Special Correspondent.)

Output.—The output for March shows a great falling off, owing to the February storms. The Ibex and the Resurrection properties have not resumed operations, while such mines as the Mahala, Penn, Mab and others have been compelled to curtail forces, owing to shortage of timber. It will be April 10th before the Midland Railroad will resume shipping mine timbers, and it will be close to that date before the Ibex can resume shipments, as the branch railroad is still blocked with snow.

Bon Air.—The two entombed miners were rescued at a depth of 145 ft., just 6 ft. below the caved debris. In drifting and sinking, exactly 216 ft. was accomplished in 13 days, an average of 16 ft. per day, and at a cost of $3 per foot. A strong platform was built underneath the caved in rubbish in the old shaft, and the work of cleaning out the old shaft is progressing rapidly.

Penn.—This Breece Hill property is curtailing shipments from lack of mining timbers and shortage of fuel to 12 tons daily, while the mill has closed entirely. The same condition prevails at other producers, and the thaw is causing as much trouble as the snow. Timbers have advanced 100% in price, while domestic coal has to be used for steam, at an increase of $2 per ton.

Rialto Leasing and Mining Company.—The company is pushing work from the deep shaft on the Pyrenees. The low grade ore opened up some months ago is too poor to ship and the miners are searching for the main ore shoot.

Stewart Group.—Mr. Myrick reports the opening up of fine iron ore bodies. He is also prospecting on a good lead ore shoot.

Weldon.—Manager Schlessinger is cleaning ing out the old workings and will begin mining early in April. The Weldon is one of the best of the downtown mines, and at the time of the shut-down was shipping heavily from a rich ore body.

Mesa County.

Nancy Hanks.—This group of copper claims, near Grand Junction, together with the Annie and the Unaweep is reported traded to Eastern parties for $40,000. Four or five carloads of ore have been shipped from the claims, it is said, but the development done is but slight.

Ouray County.

American Gold Mining Company.—This is the name of the company which owns, and is working the American and the Nettie claims near Ouray.

Summit County.

Uncle Sam.—A tunnel in 300 ft. on this claim at Swandyke in Breckenridge district has, according to reports, cut a good sized vein of decomposed sulphides carrying free gold. Very high assays are reported. S. W. Wright, one of the owners, is manager.

Teller County.—Cripple Creek.

(From Our Special Correspondent.)

Teller County.—Governor Thomas has signed the bill creating the county of Teller, and now the Cripple Creek mining district is no longer in El Paso County. Teller County takes in all of the mines in the Cripple Creek District and is the principal mining county in the State. El Paso County now has no metal mines in it.

Elkton Consolidated Mining and Milling Company.—In a circular issued by the president the following appears: The dividend for the quarter ending March 31st has been passed to strengthen the treasury reserve. During this quarter the mine has netted a little more than the amount necessary to pay a one cent dividend per month. There is at present cash on hand $41,523. The management has been handicapped by the heavy flow of water on the 5th level, but this is now abating. This level has been run 240 ft. to the side line of the Apple Ellen claim; the ore is mostly low grade ore, running from $16 to $50 per ton. On the north of the shaft the drift has been run 650 ft., which shows good ore from 4 in. to 9 ft. wide. There is still 800 ft. to drift to the north end line of the property.

Hoosier.—There seems to be no doubt that ore is being found on this claim on Tenderfoot Hill. A recent shipment yielded very good returns, and the claim appears to have the making of a mine. It is worked under lease by Mr. Anstie.

Nugget Mining and Milling Company.—Talk of litigation between this company and the Jack Pot Company is active. The vein crosses the Jack Pot claim diagonally and enters the Elizabeth Cooper claim of the Nugget Company across its side line. The Nugget people claim that the apex of the vein passes out of one side line and one end line of the Elizabeth Cooper, thus giving them extralateral rights in the Jack Pot. The Jack Pot people say that the vein passes out of both side lines of the Elizabeth Cooper. No ore is shipped from the Elizabeth Cooper, but several of the lessees are working for the Jack Pot vein.

Ophelia Tunnel.—It is reported that work is to start again on this tunnel a short distance south of Cripple Creek, owned by the Mines Intersection Syndicate, Limited. The tunnel is now about 2,500 ft. long.

IDAHO.

Blaine County.

Camas No. 1.—It is stated that a new mill is to be erected at this mine, near Hailey, this year.

Owyhee County.

Trade Dollar Mining and Milling Company.—This company, it is stated, is to increase its capital stock from 500,000 shares of $5 each to 800,000 shares, and to purchase the Florida Mining Company. The name of the present corporation will be changed to the Trade Dollar Combined Mining Company. The Florida Company's property comprises 20 claims, and a well equipped mill at Dewey.

J. M. Guffey, of Pittsburg, Pa., is president of the company, and he, in connection with A. W. and R. B. Mellon, E. H. Jennings, Aaron French, W. H. Dewey, M. Murphy and C. D. Greenlee, also of Pittsburg, are the principal owners of the corporation. James Hutchinson, of Silver City, is manager.

Shoshone County.

Mother Lode.—A pocket of high grade gold ore was struck recently by two lessees in this claim near Murray.

MICHIGAN.

Copper.

The scarcity of good labor, which has been for several months, promises to become very marked as soon as the companies recently organized start work. Unskilled labor at some mines is reported to receive now as high as $46 per month, while regular miners get $75. It is stated also that with machinery houses full of orders and costs of mining supplies much higher than a year ago, some of the recently organized companies will find development work much more expensive than they anticipated.

Copper Range Railroad.—The road is to buy three 75-ton freight locomotives and two 60-ton passenger locomotives, 150 flat and box cars, and 6,500 tons of 75-lb. steel rails. Docks and terminals are to be built on Portage Lake.

Washington Copper Mining Company.—At the annual meeting in Boston, March 28th, there were 28,292 shares represented. H. F. Fay, S. R. Dow, J. C. Watson, Charles E. Adams and James Chynoweth were elected directors. Mr. Fay will be president. Mr. Frederick Beck and R. R. Goodell retired. The capital was increased from 40,000 to 100,000 shares, par $25. President Fay stated that exploration work was begun on the property last July. Several lodes were found, into which pits were sunk to a greater or less depth. Two fissure veins were followed down to some depth, with an encouraging showing. A shaft was started on a lode which at first resembled the Ashbed lode, but later proved not to be. This shaft is now down between 140 and 150 ft., and shows sufficient copper to encourage further development. The directors were authorized to dispose of the new stock from time to time in such manner and for such consideration as they thought advisable. The meeting adjourned until April 4th, at which time action upon the by-laws will be taken.

Iron—Gogebic Range.

Brotherton.—This mine, near Bessemer, is to be combined under one management with three idle properties, the Sunday Lake, Arctic and Iron Chief. Joseph Sellwood, of Duluth, Minn., president of the Brotherton Company, will have charge.

Bay County.

Central.—The shaft at this coal mine, 1 mile west of Salzburg, is completed and the company is preparing to get out coal. W. A. Knapp is manager.

Saginaw County.

Michigan Coal Company.—This company now has about 50 men working in its recently opened Black Pearl Mine, at Saint Charles. The seam of coal worked is about 3 ft., and is reported of good quality.

MINNESOTA.

(From Our Special Correspondent.)

The West Duluth blast furnace now transferred to the Thomas Furnace Company, will be enlarged and put into operation. With it is a 40 acre tract of land, and the Thomas Company has taken 5 acres additional

Lake shipping rates are still rising and the men who took season contracts at 60c. are growing angrier day by day. Rates are not quoted but 70c. would be eagerly taken by mining companies. Navigation to Lake Superior is not likely to open before May 5th.

Iron-Mesabi Range.

(From Our Special Correspondent.)

Auburn Iron Company.—While lowering a heavy steam shovel in to the pit recently, the cable broke and the shovel was smashed to pieces.

Roberts Iron Company—Some 85 men are employed and 20,000 tons are in stock. Work has been very successful so far.

D'Autremont-Brown.—People on the range are speculating as to whom this property has been sold for $130,000. Many think J. J. Hill interests, but they're wrong. The purchaser is a very large concern, already identified with Minnesota ore lands.

Fayal Iron Company.—There are 200 men already at work stripping, with 2 shovels. Frozen earth does not bother much. Stock piles contain about 370,000 tons of ore, There will be three working shafts and an open pit, compared with the 1 shaft from which 650,000 tons were shipped in a season.

Genoa Iron Company.—There are about 220,000 tons in stock and the season shipments are expected to be nearly 450,000 tons. Hoisting is very rapid.

Ohio Mining Company.—This company has let to Gulbianson Brothers a stripping contract for 200,000 yds. Work begins at once.

Sparta Iron Company.—The Drake-Stratton Company has resumed work on a large stripping contract. The mine will start up in about 3 weeks.

Iron-Vermilion Range.

(From Our Special Correspondent.)

Explorations.—A. C. Ely, of Chicago, has begun exploring on sec. 15, T. 63 R. 11. M. H. Alworth has begun work in sec. 22 T. 63, R. 11, and several others are at work from 3 to 5 miles east of Ely.

Oliver Iron Mining Company.—Night crews have been added at the Savoy and Zenith Mines, giving about 250 men at each mine. At Pioneer electric haulage underground will be installed soon. At this mine wages under contract system last month averaged about $2.35 a day.

Southall Iron Company.—This property, in 4, 62-13, will be under active exploration soon.

MISSOURI.

Jasper County.

(From Our Special Correspondent.)

Joplin Ore Market.—The week just closed has been favorable for mining, and the output was about the same as that of the week before. There was no change in the price of either ore, and jack sold at $43 per ton for strictly fancy grades, while lead opened and closed the week at $26 per 1,000.

During the corresponding week last year jack sold for $25 per ton and lead at $22 per 1,000. The turn-in was less than for the past week by 3,511,580 lbs. of zinc, and 216,280 lbs. of lead, while the value was less by $143,218. For the first 12 weeks of last year the turn-in was less than that this year by 13,657,200 lbs. of zinc, greater by 3,179,540 lbs. of lead, and the value was less by $923,319. As compared with the previous week, the past week's shipments show a gain of 95,860 lbs. of zinc and 65,560 lbs. of lead, but the value was less by $1,928. Following is the turn-in by camps:

	Zinc. Lbs.	Lead. Lbs.	Value.
Joplin	1,840,630	407,630	$48,731
Webb City	617,500	53,170	13,732
Carterville	1,242,410	227,040	30,751
Oronogo	1,907,920	7,870	21,242
Duenweg	1,377,790	42,470	27,281
Central City	610,260	33,810	13,084
Stotts City	476,580	.....	6,008
Aurora	1,400,000	20,000	21,420
Galena-Empire	2,259,730	223,540	49,887
Belleville	142,860	.....	3,000
Lehigh	21,270	.....	447
Carthage	139,400	.....	2,997
Granby, Newton Co.	319,000	19,000	5,279
Alba	177,500	.....	3,728
Hells Neck	233,090	.....	4,894
Total for week.....	11,865,940	1,034,530	$252,481
Total for 12 weeks..	114,895,660	10,680,420	$2,274,592

During the week 500 acres have been leased for mining purposes and 372 acres have been sold.

Joseph Herron, of Carthage, has sold 152 acres of mineral land 5½ miles northwest of Joplin to George and Julius Postel, of Mascoutah, Ill., for $4,400.

The No. 5 mine on the Kohinoor lease of the Empire ground has been sold for $10,000.

M. B. Schooler has sold his 3-16 interest in the Quality Ridge Mine on the Inter-Urban lease at Central City to Charles McCutcheon, of Kansas City, for $3,000.

The Little Blanch Mine and lease at Oronogo

has been sold to the Oronogo Mining Company for $30,000.

Boice & Company sold their lease on the Southside ground at Galena this week for $10,000.

The Three Friends lease of 160 acres and the fee simple of the 160 acres belonging to Oscar De Graff and Hastings, Tiers & Patterson, at Bellville, has been sold for $125,000. The general opinion is, among those who know the land, that the value placed upon it was excessive. The buyers for the property were found by George W. Foster, of St. Louis.

The Get There lease of the Stewart land at Carterville was sold recently by James I. Geddes to Eastern parties for $150,000. The lease was owned by James O'Neill and is one of the great producers of the district.

The Burch 60-acre lease of the Centre Valley ground, between Webb City and Oronogo, has been sold for $12,000.

MONTANA.

Broadwater County.

Polaris.—This silver mine at Dillon, owned by a New York company, was sold at Sheriff's sale recently. The mine contains a large amount of good ore, but difficulties in treating the ore by lixiviation, the process used, and the lack of a thoroughly skilled superintendent led to the shut down.

Carbon County.

Clark's Fork Coal and Mining Company.—This company has put in electric coal cutters at its mine at Gebo.

Cascade County.

Anaconda Copper Company.—The coal mines and the store at Belt have been closed indefinitely on account of a strike among the miners.

Queen.—This mine, at Neibert, is now working about 30 men, and shipping 5 or 6 cars of silver ore daily. Only the high grade ore is shipped, the low grade ore going to the dump, W. G. Conrad is the principal owner.

Jefferson County.

Consolidated B. & G.—Ore hauling has stopped at this Clancy Mine, and development work is being pushed. The entire force will be employed in the big tunnel when it is started. Developments through the shaft at the 250-ft. level are being pushed. The tunnel will run under the ore chutes discovered and partially developed by the shaft and levels on the hill.

King Solomon.—This Clancy Mine has shipped a carload of ore from its new strike to the East Helena Smelter.

NORTH CAROLINA.

Empire Steel and Iron Company.—This company, organized under the laws of New Jersey with $2,500,000 preferred stock and $2,500,000 common stock, for purchasing or leasing certain ore mines, blast furnaces and steel works, has purchased the furnace at Greensboro, and the ore properties connected with it, and will develop the ore properties and put the furnace in blast as soon as practicable, probably in May. Rogers, Brown & Company, of New York, acted as principals pending the organization of the company.

The furnace will be supplied with ore from Ore Hill in Chatham County, where 150 men are at work. The furnace was built in 1890 at a cost of over $200,000.

Cabarrus County.

(From Our Special Correspondent.)

Fritz Hurnicut.—This gold mine has closed down. It caught up with its reserves and had no development work ahead, the former management adopting a hand-to-mouth policy. R. E. Tompkins is now in charge, formerly with the Mecklenburg Iron Works of Charlotte.

McMacken.—This mine is down 160 ft. on a 4 ft. vein of low grade auriferous pyrites. The company is still sinking day and night. At 300 ft. it exects to drive out under the ore and develop a large quantity before erecting a plant for reducing it. At another point on the property is a vein with a good prospect of copper.

Mecklenburg County.

(From Our Special Correspondent.)

Oliver Sulphuric Acid Works.—The company is turning out 8 tons of iron pyrites from its mine in Gaston County daily, to be made into sulphuric acid for the manufacture of fertilizers.

Moore County.

(From Our Special Correspondent.)

Bell.—This gold mine is in operation under option with Frank Williams of Gold Knob as superintendent. Some West Virginia gentlemen are backing the enterprise.

Polk County.

(From Our Special Correspondent.)

A mine has just been opened by Dr. J. H. Pullen and associates of Denver, Colo., three miles from Mill Spring Post Office. They report at a depth of 40 ft. a quartz vein 20 ft. wide, containing 3 pay streaks, 18 in., 30 in. and 35 in. in. wide, which average $7.50 in gold.

Rowan County.

(From Our Special Correspondent.)

Union.—This gold and copper mine is advertising for 500 men at once and is making extensive preparations for work on a large scale. The first shaft is unwatered to a depth of 150 ft. Mr. Phillips of Boston, Mass., visited the mine on the 27th.

Stanly County.

(From Our Special Correspondent.)

Crawford.—At this gold mine they continue to find nugget gold.

North Carolina Power Company.—This company, which has purchased about 15 miles of the Yadkin River and thousands of acres on each side of its banks, is preparing to erect dams. Messrs. Ladshaw & Ladshaw are making surveys for the work. This is the most important construction ever undertaken in this part of the State. Col. E. B. C. Hambley of Rockwell, is president of the company.

Thompson.—The 10-stamp mill is in successful operation.

OHIO.

Perry County.

(From Our Special Correspondent.)

Turney & Jones Company.—On April 21st the Security Title and Trust Company, receiver, of Columbus, O., will sell at public auction, at New Lexington, the Congo Coal mines, Nos. 1 and 2, at Congo, and Mingo mines, at Hemlock. The Congo mines include about 1,000 acres of coal land, embracing the No. 6, or big vein, and 153 miners' houses, together with a large amount of machinery. Mingo mine includes a lease on 640 acres of coal land. Both mines are equipped with electrical mining machinery.

OREGON.

Jackson County.

Ashland.—The lower tunnel will be driven to connect with the west side shaft at the 250-ft. level. This tunnel is already run 800 ft., and 600 ft. more will take it to the shaft. The 5-stamp mill at Ashland is kept running on ore from the mine. The principal owners are R. M. Bennett, of Minneapolis, and J. F. Reynolds, of Sheboygan, Mich.

Jones Creek Mining Company.—This company's property in the Big Flat country near Aschland, is reported bonded to B. C. Hale of San Francisco for $15,000.

PENNSYLVANIA.

Slate.

(From Our Special Correspondent.)

Aetna.—This quarry is now opened 110 by 130 feet, and cleared down to solid rock. An 80-H. P. boiler and one hoist are in place, and slate making is expected to be in progress by April 15th. The rock looks well for a new quarry, and should make fine roofing slate.

Bangor Southern.—A first-class side piece has given a big yield all Winter. The bottom has been cleared of rubbish, and 1,500 squares per month will be this season's production.

Hoboken.—An extra large piece of top is being removed from the southern bench. Only slabs and mill stock are mined.

Hower.—This quarry will put on 15 additional shanties next week, and add to its present force of 240 men. The company expects to produce 22,000 squares of roofing slate and 100,000 ft. of blackboards this Summer.

Old Delabole.—Contractors have completed the removal of 10,000 yds. of top this week, uncovering fine rock for an area of 90x150 ft. An 80-h. p. boiler is up, and one hoist is being operated. Slate will be made by May 1st.

SOUTH DAKOTA.

Custer County.

(From Our Special Correspondent.)

Grand Junction.—A force of miners has been put at work in this mine, 7 miles northwest of Custer, clearing out the old workings. The mine was worked extensively between 1880 and 1885 with a 40-stamp mill, but the ore was not amenable to amalgamation. Since then other parties have leased the property, but always failed. The new company will try another process.

Vigilant Group.—This group of claims, 8 miles west of Custer, has been transferred to the Gold Coin Mining and Milling Company. A steam hoisting plant has been ordered for the shaft, which is down 107 ft. F. W. Bush is manager.

Laurence County.

(From Our Special Correspondent.)

Ajax Mining Company.—Work has been resumed in the 100-ft. shaft, in Deadwood. A drift has been run about 100 ft. The shaft will be sunk 100 ft. and another drift run.

Baltimore & Deadwood.—The tramway from the mine to the mill is nearly finished. The first ore will be treated in 10 days.

Climax Mining Company.—This company has been organized by John Wise, of Slate Creek, with a capitalization of $1,000,000. The property of the company is located along Slate Creek.

Columbia Gold Mining Company.—This company has been organized in Deadwood with a capital stock of $2,000,000. The officers are: President, Frank McLaughlin; vice-president, H. P. Lorey; secretary, John H. Burns; treasurer, P. J. Miniter, all of Deadwood. Board of Directors: W. J. Thornby, C. E. McHugh, Will Zink, Deadwood. P. O. Dwyer is superintendent. The company owns 15 claims on the divide between Garden City and Polo Creek, 5 miles northwest of Deadwood.

Faust & May.—The force of men at this mine, in Garden City, has been increased.

Grizzly Mining Company.—Indications of ore have been encountered on this company's claim, in Grizzly Gulch. An incline has been run 185 ft. and crosscut 150 ft. The ground is owned by Moore, Smith & Pringle, of Deadwood.

McDonald Brothers.—The McDonald Brothers, of Garden City, who have a lease on the north end of the mining ground owned by the Rossiter Brothers, of Deadwood, in Blacktail Gulch, have shipped 5 carloads of $35 ore to the Deadwood & Delaware smelter.

Mining Law Changes.—The last Legislature made the following changes in the laws for South Dakota: The size of a quartz claim is increased from 300 ft. wide to 600 ft., the length being unchanged; the locator must sink a shaft 10 ft. deep before recording; all owners of mining claims must post in a conspicuous place on the claim a notice of any mortgage or incumbrance upon the property before employing men.

Mogul.—It is stated that a good body of ore has been encountered in this mine, owned by the Horseshoe Company, at Terry.

UTAH.

(From Our Special Correspondent.)

Bullion and Ore Shipments.—During the week ending March 25th there were forwarded eastward from the different smelteries and camps of the State 31 cars, or 1,262,333 lbs., lead silver bullion; 2 cars, or 85,492 lbs., copper bullion; 60 cars, or 2,775,700 lbs., lead silver ore.

Box Elder County.

Century.—At this property in Park Valley a 4 ft. vein of free milling gold ore is reported cut in the Lizzie claim. A 10 stamp mill is contemplated.

New State.—This company has let a contract for 300 ft. of tunnel work on its claim near the Century.

Juab County.

Four Aces.—A strike of 18 in. of high grade silver ore is reported in the 630 ft. level of this mine, at Silver City.

Treasure Hill.—Five cars of ore have been shipped to Salt Lake within a few days from this property at Tintic. The working shaft is to be enlarged to 2 compartments to the 350 ft. level.

Salt Lake County.

Red Wing.—This property in Bingham, near the mouth of Markham Gulch, recently shipped a car of ore that went 59% lead and 17 oz. silver per ton, besides 50 tons of concentrates running 45% lead and 10 oz. silver.

Tooele County.

Geyser-Marion.—The mill at this company's mine at Mercur is handling about 160 tons of ore daily.

Gray Rooster.—The new hoist at this Mercur mine is nearly completed. C. Nyman has charge of operations.

Omaha.—Two steam hoists are to be put at this Mercur property. J. Howe, formerly of Butte, Mont., will act as superintendent.

South Daisy.—At this Mercur property a new 20 H. P. hoist has been put in at the north shaft, and another will soon be ready for work at the south shaft, 500 ft. distant. At the north shaft a depth of 470 ft. has been reached, and drifts have been run off, at the 400 ft. level, north and south. The south shaft is down 370 ft. Three shifts are employed.

De La Mar.—The contract for 3 additional roasters which will give the mill a daily capacity of 900 tons, has been awarded.

WASHINGTON.

Ferry County—Republic.

(From Our Special Correspondent.)

Admiral Dewey.—A cross-cut at a depth of 50 ft. has passed 22 ft. through quartz that is reported to assay from $8 to $12 in gold per ton.

Alice-Eureka.—The tunnel on this property in Klondyke Camp is in 50 ft., and a contract has been let to run an additional 50 ft.

Black Tail.—The intermediate drift, to get under the main shaft, has cut a body of paying quartz, intermixed with porphyry.

Bryan & Sewall.—The 150 ft. level cross-cut is in 80 ft. and is expected soon to strike the ledge.

Eureka.—The tunnel is in 55 ft., with 137 ft. to run to cut the vein.

Flag Hill.—The incline is down 45 ft., with 6 in. of $125 ore at the bottom. The ledge is 3 ft. wide, but the filling is mostly porphyry. The

largest of the 3 stringers produces quartz which is sometimes literally spangled with fine gold.

Golden Lily.—The shaft is down 20 ft.

Gold Leaf Group.—The tunnel is in 397 ft.

Gold Ledge.—A strike is reported from this claim, 3 miles east from Republic. Assays run from $57 to $93 per ton, and the vein is said to be large.

Independent.—A body of good-looking silver-lead bearing quartz has been discovered in this claim at Cody. A shaft is down in it 12 ft., and it is not less than 5 ft. wide. Should the ore carry lead in smelting quantities, the discovery will prove important.

Insurgent.—Work has stopped in the main shaft, and 100 ft. southwest a new shaft is started. It is intended to sink 75 ft. and drift to the vein the Lone Pine tunnel is running on. Arrangements have been made by which the Insurgent Company will, later on, work through the Lone Pine tunnel.

Kate Hayward.—The shaft is down 60 ft., but work has been transferred to a tunnel, intended to cut the vein 125 ft. deep, which is in 65 ft.

Lone Pine.—At 169 ft. in the main drift was stopped, and 19 ft. from the breast a branch drift has been started due north, on the footwall. A winze is down 20 ft. in the hanging wall 125 ft. in from the main tunnel which furnishes high assays. The quartz in the branch drift is increasing in value.

Monroe.—The tunnel is in 160 ft. and should now be very close to the east vein.

Mountain Lion.—The compressor started on March 18th. Two power drills are running on the footwall of the larger vein, and one is in the main tunnel, cross-cutting to the east vein.

Noble Three Group.—The cross-cut has been abandoned and work has been resumed in the shaft.

North San Poil.—The shaft is down 53 ft., with small quantities of visible gold present in the blue seam. A whim has been ordered, to be used in sinking to 200 ft. Stations will be cut at 100 ft. and at each succeeding 50 ft.

Red Top.—The shaft is down 40 ft., and a cross-cut is 30 ft. towards the ledge.

Republic Little Giant.—The tunnel is in 170 ft., with small stringers of quartz coming in at the breast.

San Juan.—A shaft, down 35 ft., shows a 2 ft. vein, with 18 in. of quartz that assays from $2.65 to $6 in gold per ton.

Snow Drop.—The shaft is down 50 ft.

Summit.—The tunnel is in 93 ft.

Trade Dollar.—A drift on the vein has been started on the tunnel level.

Troubador.—The shaft is down 62 ft., the quartz becoming more solid as depth is gained. The ledge continues to straighten up.

WEST VIRGINIA.

Herr Coal and Coke Company.—This company has been incorporated to deal in coal and coke, coal and timber lands and all their products. The capital subscribed is $50,000 with privilege of increasing to $500,000. The incorporators are: H. B. Herr and Benjamin Snavely of Lime Valley, Pa.; D. J. Herr of Refton, Pa.; Charles B. Shank and E. B. Shank of Millersville, Pa. The principal office is to be in Martinsburg.

Fayette County.

(From Our Special Correspondent.)

Boomer Coal and Coke Company.—This company expects to have its new plant at Boomer, which was begun last Fall, in operation inside of 60 days.

W. P. Rend & Company.—It is stated on good authority that this Chicago company has abandoned the idea of opening a mine up Boomer Branch. It is still opening ground on Gauley River, at the mouth of Twenty Mile Creek, on a branch of the Chesapeake & Ohio Railroad. J. P. Rend, vice-president of the company, has charge.

WYOMING.

Carbon County.

Hay Creek Coal.—Shipments of coal are made regularly to Black Hills cities. A 1,500-ft. slope is being run, which is in 625 ft. The mine will be opened extensively this summer. Two analyses of the coal. One sample gave carbon, 44.14%; volatile matter, 45.27%; ash, 8.35%; water, 4.34%. Second sample gave: Carbon, 45.86%; volatile matter, 41.49%; ash, 6%, water, 6.66%.

Diamondville Coal Mines.—The fire that burnt several months in these mines is now out. Work has been resumed in mine No. 1. The levels below the 6th are being pumped out.

The mine will soon be worked to its full capacity of 125 cars of coal daily.

Quealey.—This coal mine at Kemmerer is reported to be shipping 1,400 tons daily. Work goes on 7 days in the week.

Laramie County.

(From Our Special Correspondent.)

Silver Crown.—Mr. Ochs, formerly shift boss on the United Verde Mine of Arizona, has taken a bond and lease on some copper prospects at Silver Crown, and intends to open them immediately. He also says that he will operate the furnace that has been idle for about 10 years.

Natrona County.

(From Our Special Correspondent.)

Coal Discovery.—At Wolston, some 60 miles northwest of Casper, a vein of coal has been opened that is reported to be of good quality.

Sweetwater County.

(From Our Special Correspondent.)

Green River Soda Wells.—A. D. Whitby of Virginia has spent some time in examining the Green River soda proposition, but has not made his report public.

FOREIGN MINING NEWS.

AFRICA.

Rhodesia.

The gold production for February is reported by the Rhodesia Chamber of Mines, at 6,423 crude oz. For the two months ending February 28th the total was 12,793 crude oz.; equal to 10,618 fine ox., or $219,474.

AUSTRALASIA.

New Zealand.

The Mines Department reports, through its monthly "Record," that the gold production of the Colony in 1898, as compared with the previous year, was as follows:

	1897.	1898.	Increase.
" fine oz.	230,782	254,444	23,662
Gold, crude oz	251,644	280,175	28,531
Value	$4,770,256	$5,259,363	$489,107

The output is the largest reported for any year since 1880. The greatest poduction ever reported in a single year was 730,029 oz. in 1871. The silver production in 1898 was 295,256 oz., the largest ever reported. It compares with 181,150 oz. in 1897, showing a gain of 114,106 oz.

The silver is principally obtained from the gold mines in the Ohinemuri District. During the past 42 years there was exported from this Colony:

	Oz.	Value.
Gold	13,845,727	$265,006,182
Silver	1,380,418	1,149,623
Total		$266,155,805

The "Record" says: "The Ohinemuri gold field has shown a very substantial increase in the bullion from the principal mines at Waihi, Waitekauri and Karangahake; while Coromandel has contributed its regular quota, though the yields have not been of the sensational character recorded a few years ago. The Thames has gone on steadily, but some time must elapse before the deep levels can be profitably exploited, as the old Queen of Beauty shaft, where some of the largest pumping machinery in Australasia has just been erected, will have to be enlarged and retimbered to the depth formerly attained. In the Nelson-Westland gold fields the most noticeable feature of the past year has been the start made with the large reduction works of the Progress Mines of New Zealand, near Reefton, and the steady production of gold from the large ore-bodies in the company's mines. In Otago a number of up to date gold dredging plants have been constructed, and there should be a considerable increase in the export of gold from that part of the colony. Altogether the outlook for the year 1899, so far as the gold mining industry is concerned, is of a very hopeful character."

Tasmania.

Mount Lyell Mining Company.—This company reports for the four weeks ending March 8th, 14,567 tons ore smelted, the yield being 450 tons blister copper, containing 400 tons fine copper; 57,237 oz. silver and 1,739 oz. gold. The average result was, therefore, 2.75% copper, 3.93 oz. silver, and 0.12 oz. gold to the ton.

CANADA.

British Columbia—Nelson.

Hall Mines, Limited.—This company is offering in London £50,000 in 6 per cent. first mortgage debentures. Holders are to have the option of converting them into ordinary shares at par at any time up to March 31, 1902. If the option is not exercised, the company will have the right to repay them at any time after that date at 105 per cent., or by ten yearly drawings, the first to take place in March, 1903. The present capital is £250,000 in ordinary shares and £25,000 in preferred shares.

The company reports for the 4 weeks ending March 6th that 2,458 tons ore were smelted, yielding matter containing 54 tons copper and 36,890 oz. silver; showing an average of 2.2 % copper and 15.0 oz. silver to the ton.

British Columbia—West Kootenay District.

(From Our Special Correspondent.)

Rossland, Ore Shipments.—These from the Le Roi and Iron Mask now average 2,350 tons weekly.

British America Corporation.—The Columbia Kootenay upraise between No. 3 and No. 4 tunnels is about completed. In the Nickel Plate and Great Western development work is continuously going on, but no strikes are reported. In the No. 1 the shaft is down 250 ft.

Center Star.—The new shaft of this Rossland mine is down 300 ft. A force of 50 men are at work.

Iron Horse.—The 300 ft. level has been reached. The north crosscut is 40 ft. and the south crosscut 30 ft. No appreciable quantity of ore has been found.

Iron Mask.—The No. 2 winze at this Rossland mine is now down 35 ft. The east drift from this winze has struck a good shoot of pay ore. The ore shipped is said to be higher grade than from any other mine in Trail Creek Division. The management has increased the output weekly to 72 tons.

Le Roi.—The ore shipments now average about 2,300 tons weekly.

Mascot.—The tunnel at this Rossland mine is in 520 ft. The mine in No. 2 tunnel is down 60 ft. No. 3 tunnel is in 530 ft. A number of small veins of ore have been encountered.

Norway Mountain Gold, Copper and Silver Mining Company.—A good trail is now opened up to Norway Mountain from Rossland. The above company's surface showings are said to be large with good values in gold and copper. Messrs. J. E. Sauerir, and E. N. Crumetto of Rossland, and Messrs. Kinnear and Griswold are the largest owners.

Rathmullen.—This property consists of a number of claims in the Boundary district near Grand Forks. On the Maple Leaf claim is a shaft 66 ft. deep, with a 71 ft. crosscut, showing 9 ft. of solid ore. The management will sink 100 ft. deeper before crosscutting. The lode is on a contact between porphyry and diorite.

Sunset No. 2.—J. C. Drewry, General Manager, has returned to Rossland from Toronto. The ore shoot recently found near the discovery shaft is now between 3 and 4 ft. wide. It is not likely that shipments will be made until May.

Velvet.—It is now stated that the ore body in the south drift of this mine near Rossland has widened to 20 ft at the 160 ft. level. The ore is of a shipping grade. The shaft is down 243 ft., and at 300 ft. another crosscut will be made.

War Eagle.—Ore shipments have not been resumed, as the new electric machinery is incomplete. It is stated that all trouble will soon be overcome and shipments on a large scale will begin.

Nova Scotia—Pictou County.

(From Our Special Correspondent.)

"Rights to search" over large areas have recently been taken in the neighborhood of Lansdowne and Dalhousie by Truro parties, among whom are H. W. Yonel and Dr. John H. McShay. These "rights to search" cover gold, silver and copper. Several belts of ore have been located, one of which is at least 30 ft. wide, from which has been taken a number of samples which assay well in gold and copper.

Ontario—Algoma District.

Rock Lake Mining Company.—This company, incorporated under Canadian laws, proposes to develop mineral land 9 miles south of Bruce mines, and about 36 miles east of Sault Ste Marie. It claims to own 1,400 acres of land, on which are several mines of copper sulphide ores. But little development work has been done on the property, according to the prospectus. Application has been made for a charter for a railroad from Bruce mines to the property. The capital stock is $1,000,000, in $1 shares; the home office is Sault Ste Marie, Ont., and the officers are: Mayer Wile, Buffalo, N. Y., president; B. W. Goodsell, Chicago, vice-president; L. C. Holden, Sault Ste Marie, Mich., secretary; B. G. Coryell, Chesaning, Mich., treasurer, and A. S. Burrows, Sault Ste Marie, Ont., general manager.

MEXICO.

Hidalgo.

(From Our Special Correspondent.)

San Estevan.—There is considerable excitement at Real de Monte and in Pachuca over this mine at Real de Monte. Within a few weeks the rich lodes of Cabrera and Moran will be cut, and as the latter mine has driven to its southern boundary on good ore, it is almost a certainty that the same ore continues in the San Estevan. Ventilation is much better and the drift is being driven at the rate of 5 m. a week.

San Felipe de Jesus.—This mine continues shut down, awaiting the erection of the pumping engine in Cabrera, the adjoining property. It is understood that the Real de Monte Company will shortly begin to erect a pumping plant on Cabrera, most of the machinery being on the ground.

Mexico.

(From Our Special Correspondent.)

American Mining Company.—It is reported on excellent authority that Gen. J. B. Frisbie has transferred all of his stock in the American

Mining Company, of El Oro, to J. B. Haggin & Company, of New York, and that J. B. Haggin & Company have transferred to General Frisbie their interests in the American Railroad and Lumber Company, which owns and operates a narrow gauge railroad from Tultenango, on the Mexican National Railroad, to El Oro. This is a deal of considerable importance, as the American Mining Company owns one of the best properties in Mexico.

Nolan.—The new machinery of this shaft at El Oro is being installed.

Sonora.

(From Our Special Correspondent.)

Coal Mines.—Professor Dumble, of Texas, who is examining the coal fields near La Barranca for the Southern Pacific Railway Company, has discovered some promising beds. About 50 men are employed in the development work. In one place a drift run 100 ft. in a coal bed 8 ft thick, is continuing in good coal all the way.

Corralitos Mining Company.—This company has leased the San Nicolas Mines to Thomas Kelley, and the Durita Mines to M. Baker. A large force of men will be put to work, and regular shipments made during this summer.

SOUTH AMERICA.

British Guiana.

For the two months ending February 28th the exports of gold were 10,373 crude oz., showing a decrease of 559 oz., or 5.1% from 1898. The exports this year were equal to 8,904 fine oz., or $184,054.

COAL TRADE REVIEW

New York. March 31.

Anthracite.

With warmer weather the demand for anthracite at tidewater points has fallen off, though there is still enough coal consumed inland to keep things moving along in a satisfactory manner. Rather a quiet market is expected for the next few weeks, but there is a very heavy tonnage to go forward as soon as inland navigation opens. At the head of the Lakes there is now but little coal left in the docks, and that is nearly all large sizes, while the Sault and Duluth harbor are not expected to open before May 5th. In Chicago territory the demand for coal has lessened, particularly for the larger sizes. Chestnut coal is still wanted badly, but enough is coming in by rail to supply the more urgent needs until lake shipments begin. In the East high ocean freights continue to interfere with any movement of coal to points beyond Cape Cod, except in barges owned by the coal companies.

Though the general feeling among dealers is one of confidence, it is also recognized that the productive capacity of the collieries is far in excess of any probable demand. Consequently, if any individual interest influenced by the general prosperity in other lines of business undertakes to sell more coal than competitors regard as proper, there is bound to be trouble. The production for April is estimated at 2,700,000 tons, the same figure as last year, and in the present shape of the market this estimate does not seem excessive. Prices at New York show little change, though the large sizes are in less demand, and rumors of concessions are heard. Chestnut continues to be the size most wanted. It is said one company sold coal at tide water in February at an average of $3.54 per ton for stove and $3.17 for broken, which, if true, would indicate larger concessions on stove size than were thought probable.

We continue to quote free burning anthracite f. o. b. New York: Broken, $3.20; egg, $3.40; stove, $3.75; chestnut, $3.75, with the small sizes: Pea, $2.50@$2.60; buckwheat, $2@$2.50; rice, $1.35@$1.60. $1.60.

Notes of the Week.

The Philadelphia & Reading Coal and Iron Company makes the following statement for February and the eight months of the fiscal year, from July 1st to February 28th:

Expenses	2,032,378	15,627,741
Net	$10,240	$1,008 601
Earnings	$2,042,618	$16,636,345
	February.	Year.

For the eight months the gross earnings show a decrease of $135,361, and the expenses a decrease of $408,588, leaving an increase of $263,227 in net earnings.

Bituminous.

The seaboard bituminous trade continues active. The new through rates from mines to tide go into effect April 1st, and will probably be the basis for the market price of coal during the season. Most men in the trade are hopeful for a good season's business on account of the general boom in manufacturing. At the same time they realize that there are producers enough ready to cut, thus demoralizing the market when things look ready for a rise. Most consumers are trying to bear the market, and are holding off a little in the hope that their talk may have some effect, while producers are not showing the eagerness of previous years in hunting for contracts. As showing the variableness of the market, it may be said that in a producer's office in this city word came from a consumer that he had received offers of first class coal at $1.50 f. o. b. Philadelphia, or $1.45 f. o. b. Norfolk, while within a half hour a producer stated that within a few days he had contracted with a competitor of this same consumer at $1.80 Philadelphia. Trade in the far East is fairly active. More orders are going to the lower ports, thus keeping up the ocean freights, which consumers have been fighting against. Along the Sound business has shown signs of falling off, possibly because of uncertainty regarding the new rail rates. At New York Harbor ports the demand is steady, with no signs of diminishing. Export trade is unchanged. There seems to be less shipping on outside orders, indicating that this business is pretty well covered by contracts. The export tonnage so far is far in excess of that of previous years.

Transportation from mines to tide early in the week was irregular, but is now much better. Car supply is not up to the maximum desired by producers, but is improving. In the coastwise vessel market, vessels are in fair supply, with an increased demand, and rates are steady. We quote current rates from Philadelphia as follows: Providence, New Bedford and the Sound, $1.15; Boston, $1.30; Portsmouth, $1.35; Lynn, $1.50, with 5 to 10 cents above these rates from the further lower ports.

Birmingham, Ala. March 27.

(From Our Special Correspondent.)

There is nothing new in the coal trade in this section. All the mines are working hard and every effort is being made to get out as much coal as possible. There is a good demand still for the product and a fair price is being obtained. The announcement is made that some heavy contracts, which will last for more than 16 months, are about to be made in this district.

In this State there is but little trouble with labor. At Warrior, in this county, over 100 miners are out on a strike, but they do not belong to the United Mine Workers of America, and therefore the bulk of the miners are offering but little assistance.

Chicago, March 29.

(From Our Special Correspondent.)

Anthracite Coal.—There is a continued good demand for hard coal, though it is noticed that sales are for much smaller quantities than during the past two months, in which the cold weather forced buying. The receipts of anthracite coal are not large, but there is ample supply for present demand. Chestnut coal continues in much demand, and as yet this market is practically bare of that size, the scarcity of which during the past two months has driven dealers into buying other sizes to take its place. Prices continue rather firm, wholesale quotations being $5.25 for stove and egg and $5.50 for chestnut, some shading being done on both above figures.

Bituminous coal has quieted down in demand, though as yet the purchasing by manufacturing concerns, railroads, etc., has not slackened to any great extent. The demand for the better kind of soft coal for domestic purposes has been steady all the winter, and enormous quantities have been absorbed, in consequence of which anthracite coal has suffered to some extent. There is much coal coming in, but there is not likely to be a surplus for some time to come, most of the cars being accepted as soon as they arrive. Prices on soft coal remain fairly steady.

Pittsburg. March 30.

(From Our Special Correspondent.)

Coal.—There was a moderate coal shipment by the Ohio River during the week, many of the tow boats that returned with empties were sent out again as soon as they could be made ready. The scale committee of miners have so far failed to come to a proper understanding; another meeting has been called.

Henry Floersheim, the Finleyville coal operator has been awarded the contracts for furnishing coal for the next year, beginning April 1st, to the Bellaire Gas and Electric Company and the Wheeling Company.

At Washington, Pa., in the recorders' office, deeds for three tracts of valuable coal lands was recorded on Saturday; one was 108 acres and 28 perches consideration, $8,924. The second was Elgy S. Carson and wife to Simpson, for all the Pittsburg vein of coal underlying 50 acres and 105 perches consideration, $1,609. Mr. Simpson also bought from A. B. Richards all the coal underlying 258 acres; consideration $8,788.

Ellsworth Company of Chicago has closed negotiations for 13,000 acres in Washington County, Pa.; mining operations on a large scale are contemplated and local railroads are to be built.

At Uniontown, Pa., March 28th, the deed for 1,250 acres of coking coal, sold by H. C. Frick to the Continental Coke Company, was placed on record. The consideration was $1,002,050. A mortgage is given for part of the purchase money in this deal, and other big mortgages entered this month in the recorders' office aggregate the enormous sum of $8,500,000.

Thick-vein operators refuse to participate in the joint wage scale conference, fearing unfair treatment. Arbitration has been proposed and the differential dispute may be amicably settled.

Connellsville Coke.—The coke trade was on the boom last week again. That distressing car shortage was present to a disagreeable extent, but, withal a large shipment was made and demand for shipment was brisk.

The greatest difficulty now is the inability of furnacemen to unload coke after it reaches the furnace side. The recent bizzard disarranged the yard service at many furnaces, and cars cannot be unloaded rapidly. The railroads complain that loaded cars are run into outer sidings and left standing for days for want of yard room to unload the coke. This is creating a scarcity of cars again and the trade is restricted as to transportation facilities. As a result the shipment for the week shows a falling off of 243 cars, though nearly 100 ovens were added to the active list, and production for the week made a gain of almost 4,000 tons.

At Dunbar, Pa., the Washington Coal and Coke Company has given out a contract to Bennet & Talbot to build 750 new coke ovens.

The shipments of coke for the week were as follows: To Pittsburg, 3,062 cars; sent West, 5,156 cars; sent East, 1,477 cars. Total, 9,695 cars.

Shanghai, China. Feb. 20.

(Special Report of Wheelock & Co.)

Coal.—Nothing new has been done in Japan, Cardiff or Sydney Wollongong. Arrivals of all kinds of coal during the fortnight were 26,992 tons. Quotations per ton are as follows: American anthracite, 15 taels, nominal; Welsh Cardiff, 19 taels; Australian Wollongong, steamer cargo, 12 taels, and other sorts, 6.75 @ 7 taels; Japan, all contracted for; Chinese Kaiping, lump, 7 @ 8 taels, dust, 6 taels, and mixed, 5.80 @ 6.50 taels.

Kerosene Oil.—A fair business has been done in American among native operators at 1.75 @ 1.75½ taels per case, while importers have placed a considerable quantity at 1,77½ taels, less 2 per cent. An arrival of 70,000 cases is noted, which we hear is as yet unsold. Stocks now amount to 795,771 cases. Russian Batum stocks are 371,700 cases. In Sumatra Langkat no transactions are reported; stocks are 16,900 cases. Quotations per case are as follows: American Devoe's 1.77½ taels; Russian-Batum, Anchor Chop, 1.67½ taels, Star and Crescent Chop, 1.67½ taels; all two months delivery less 2 per cent. There are no stocks offered in cases of Batum per. oil, but for bulk oil two tins, 1.60 taels is asked, and for Sumatra Laugkat, the same.

SLATE TRADE REVIEW.

New York. March 31

The stormy weather has interfered with building operations all over the country, and, consequently, the demand for slate has been limited. Notwithstanding this stocks of roofing slate at the quarries in Vermont and Pennsylvania are considerably less than for many years past. It is estimated that the present holdings in Pennsylvania alone do not exceed 35,000 or 40,000 squares, while in Vermont probably not more than 50,000 squares are on hand. Of course, as soon as the weather will permit more active operations the stocks of roofing slate will grow. But by that time the demand will have increased, and so no great pressure will be felt on the market. Nevertheless, the competition among quarrymen will unsettle prices. We hear already that cuts are made on published price-lists of roofing slate, and in some cases at 25c. per square.

Shipments for the week ending March 23d from Slatington included 2,822 squares roofing slate, against 2,948 squares the week before. Walnutport moved 50 squares roofing in the week ending March 23d, and Danielsville 303 squares, both showing a decrease as compared with the previous week. The shipments of school slates from Slatington were less than for the week ending March 16th, but more blackboards were transported. From Walnutport last week a lot of school slates were shipped, while the movement in blackboards was in excess of the previous week. Danielsville, on the other hand, shows a falling off in blackboards and flagging; of the former there were shipped last week 30 crates, against 111 crates in the week of March 16th; and of the flagging, 420 pieces, against 38 crates. In export circles there is some discussion as to the effect of the increased slate production in Wales. The opinion is advanced that our foreign business will be virtually cut off as soon as the Welsh quarries begin to accumulate stocks. It is also believed that the exports from the United States in the first quarter of the year will be less than the corresponding period of the last two years. In 1898 we exported from January 1st to April 1st, $311,269 worth of slate, as against $169,646 in 1897. Of this total the port of New York furnished about 73% in 1898, and 67% in 1897. From figures al-

ready in hand we judge the first three months of 1899 will show an increase over 1897.

The exports from Baltimore during the week ending March 23d were 135 short tons of roofing slate to Belfast, Ireland.

The freight market continues firm, and rates from New York are as follows: To Liverpool, 13s. 6d. ($3.24) per ton, or 93c. per square of roofing slate; London, 13s. 9d. ($3.30) per ton, or 94c. per square; Manchester, Bristol and Hamburg, 15s. ($3.60) or $1 per square; Hull and Newcastle, 17s. 6d. ($4.20) or $1.20 per square; all with a 5% primage per ton weight.

Mill stock is unchanged in value. A few fair-sized lots have recently been exported. Blackboards are quoted from first hands at 10, 11 and 12c. per sq. ft., according to size, while second hands ask 1c. more. Billiard table tops are quoted at 18c. to 23c. per superficial foot, as to quality and class of work required. Large buyers can doubtless shade these prices. Some makers quote marbleized slate, as to quality and workmanship, at 40@80c. per superficial foot, while others are understood to be selling at less. Pencils made from ground slate and other ingredients vary in price according to size (5 in. to 7 in.) from $1@$1.50 per 1,000. Discounts are allowed large buyers.

Slaters' supplies are quoted about as follows: Machine for punching and cutting slate to pattern, $25, f. o. b. factory; hammer, $3; ripper, $1.75; stake, 75c.; slaters' felt, 500@600 sq. ft., 65@90c. per roll; elastic roofing cement, 3@7c. per lb., according to quantity, all prices at New York.

The list of prices per square for No. 1 slate standard brand f. o. b. at quarries is given below:

Prices of Roofing Slate.

Size, inches	Monson or Br'n ville.	Bangor.	Bangor Ribbon.	Alb'n, or Jackson Bangor.	Lehigh.	Peach Bottom.	Sea Gr'n.	Unfad'g Green.	Red.
	$	$	$	$	$	$	$	$	$
28 x 14	.....	.....	.....	.....	.....	.....	2.50	.....	.....
26 x 14	.....	.....	.....	.....	.....	.....	2.50	.....	.....
24 x 16	.....	.....	.....	.....	.....	4.75	.....	.....	.....
24 x 15	.....	.....	.....	.....	.....	4.75	.....	.....	.....
24 x 14	6.10	3.35	2.75	3.10	3.50	4.85	2.50	3.50	.....
24 x 13	.....	.....	.....	.....	.....	4.85	.....	.....	.....
24 x 12	6.60	3.35	2.75	3.10	3.50	5.00	2.50	3.50	.....
24 x 10	.....	.....	.....	.....	.....	5.00	.....	.....	.....
22 x 14	6.10	.....	.....	.....	.....	5.00	2.40	3.50	.....
22 x 13	.....	.....	.....	.....	.....	5.00	.....	.....	.....
22 x 12	6.60	3.50	2.75	3.10	3.50	5.00	2.50	3.50	.....
22 x 11	6.50	3.50	3.00	3.10	3.75	5.00	2.75	3.75	.....
20 x 14	6.40	.....	.....	.....	.....	.....	2.40	3.50	.....
20 x 13	.....	.....	.....	.....	.....	5.00	.....	.....	.....
20 x 12	6 90	3.50	3.00	3 10	3.75	5.00	2.50	3.75	.....
20 x 11	6.80	.....	.....	3.35	.....	5.00	2.50	3.75	.....
20 x 10	6.80	4.00	3.25	3.35	3.80	5.10	2.75	4.00	10.50
18 x 18	.....	4.00	.....	.....	.....	.....	.....	.....	.....
18 x 14	6.50	.....	.....	.....	.....	.....	.....	.....	.....
18 x 12	6.80	3.50	.....	3.10	.....	5.00	2.50	3.50	.....
18 x 11	7.00	.....	.....	.....	.....	5.00	2.50	3.75	.....
18 x 10	7.20	4.00	3.25	3.35	3.80	5.10	2.50	4.00	10.50
18 x 9	7.10	4.00	3.25	3.35	3.80	5.10	2.50	4.00	10.50
16 x 16	7.00	3.75	.....	.....	.....	.....	.....	.....	.....
16 x 14	.....	4.25	.....	.....	.....	.....	.....	.....	.....
16 x 12	6.80	3.50	.....	3.10	.....	.....	2.40	3.50	.....
16 x 11	6.90	.....	.....	.....	.....	5 00	.....	.....	.....
16 x 10	7.10	3 75	3.25	3.35	3.80	5.00	2.40	4.00	10.50
16 x 9	7.00	3.75	.....	3.35	3.80	5.10	2.40	4.00	10.50
16 x 8	7.20	4.00	3.15	3.35	3.80	5.10	2.40	4.00	10.50
14 x 14	7.00	4.00	.....	.....	.....	.....	.....	.....	.....
14 x 12	6.50	.....	.....	.....	.....	.....	2.25	.....	.....
14 x 10	6 60	3.50	3.00	3.10	3 75	5.00	2.25	3 75	10.50
14 x 9	6.50	.....	.....	.....	3.40	4.85	2.25	3.75	10.50
14 x 8	6 60	3.50	3.00	3.10	3.40	4.85	2.25	4.00	10.50
14 x 7	6.40	3.50	3.15	3.10	3.40	4.85	2.20	4.00	10.50
12 x 10	5.80	3.50	..	.....	.....	4.60	2.20	3.25	.....
12 x 9	5.60	.....	.....	.....	.....	4.60	2.20	3 25	.....
12 x 8	5.50	3.25	.....	3.10	3.25	4 60	2.20	3.25	9 00
12 x 7	5.00	3.60	.....	3.10	3.25	4.60	2.20	3.25	9.00
12 x 6	4.80	3 00	.....	3 10	3.25	4.60	.....	3 25	8.50
11 x 10	.....	3.50	.....	.....	.....	.....	.....	.....	.....
11 x 8	4 50	.....	.....	.....	.....	.....	.....	.....	.....
11 x 7	4.00	.....	.....	.....	.....	.....	.....	.....	.....
10 x 12	.....	.....	.....	.....	.....	.....	.....	.....	.....
10 x 11	.....	.....	.....	.....	.....	.....	.....	.....	.....
10 x 8	4.00	.....	.....	.....	.....	.....	.....	.....	6.50
10 x 7	..	.....	..	.....	.....	.....	..	.....	6.50
10 x 6	.....	.....	.....	.....	.....	.....	.....	.....	6.50
9 x 7	3.50	.....	.....	.....	.....	.....	.....	.....	.....

A square of slate is 100 sq. ft. as laid on the roof.

In Brownville and Monson delivery quotations can be had somewhat lower than above, which is also true of other brands. No. 1 Bangor are 50c. extra when full 3-16 in. thick, and Peach Bottom 25c. extra per square. Purple sizes run 24x12 and 14x7, and vary from $3.75 to $4 per square. Variegated and mottled, $2.25@$2.90 per square, according to size. Intermediate sea-green $2@$2.25 per square. Intermediate red, 14x7 and larger, $6; 12x6, 12x7 and 12x8 in., $5 per square, net.

CHEMICALS AND MINERALS.

(For current prices of chemicals, minerals and rare elements, see also page 402.)

New York. March 31.

Heavy Chemicals.—Demand has still further improved, and prices of soda ash are steady. The larger arrivals of English prime bleaching powder of late have eased prices. Imports this week included 120 bbls., 165 casks, 93 drums bleaching powder and 150 kegs chlorate of potash. We note also several large importations of soda ash. Domestic receipts at New York this week included 894 sacks soda ash, 90 drums caustic soda and 37 casks and 4 bbls. potash.

Quotations are: Caustic soda, domestic, high test, $1.35@$1.40 per 100 lbs. f. o. b. works; $1.50@$1.65 delivered. Foreign caustic soda, high test, $1.60@$1.70 delivered, according to test and quality. Powdered caustic soda, 2¾@3c. Alkali, domestic, 60@65c. f. o. b. works; 70@75c. delivered; foreign, 75@80c. Bleaching powder, Liverpool prime brands, $1.60@$1.65 per 100 lbs.; other brands, $1.40@$1.50. Continental F prime, $1.55@$1.65. Bicarb. soda, domestic, ordinary, $1.12½@$1.25 per 100 lbs. f. o. b. works. Natrona brand, $1.65. "Arm and Hammer" brand, $3.25@$3.50, less the usual discount; foreign, $2.12½@$2.25 per 100 lbs., according to brand and style of package. Sal soda, domestic, 50c. per 100 lbs. f. o. b. works, less the usual discounts; English, 60@62½c. per 100 lbs. Concentrated sal soda, foreign (crystal carbonate), $1.60@$1.70 per 100 lbs.; domestic (mono-hydrate crystals), $1.25@$1.35 per 100 lbs.; "snowflake, $1@$1.12½ f. o. b. Syracuse. Chlorate of potash, crystals, 9@9½c.; powdered, 9½@9¾c. per lb.

Acids.—The month of March has shown good business all round. Prices are practically unchanged, excepting that blue vitriol is quoted at about ½c. less per lb. than last week. Imports included 160 casks oxalic acid.

The General Chemical Company has made a full statement of its acquisitions, etc., which we publish in another column.

Quotations per 100 lbs. for New York and vicinity are as follows: Acetic acid, commercial, No. 8, $1.30@$1.40; muriatic acid, 18°, $1.10 for drums, and $1.15@$1.75 for carboys; 20°, $1.20@$1.87½; 22°, $1.35@$2.25, according to quantity and brand. Nitric acid, 36°, $3.50@$4.75; 38°, $3.75@$4.62½; 40°, $4@$4.87½; 42°, $4.62@$5.25. Oxalic acid, $6.25@$6.50. Mixed acids, according to mixture. Sulphuric acid, 66°, $1.10 for drums and $1.15@$1.75 for carboys. Chamber acid, 50°, in a jobbing way, $11.50@$12 per ton f. o. b. factory. Blue vitriol (copper sulphate), $5.25@$5.50 per 100 lbs. for best grades.

Brimstone.—Arrivals at this port amounted to 5,200 tons. These have eased prices, so that best unmixed seconds are quoted at $22@$22½ for spot, and $21.50@$22 for shipment. Best thirds are quoted about $2 less per ton.

Pyrites.—Business keeps up well, while prices are practically unchanged. We note charters were recently taken of a British steamer of 1,297 tons to carry ore from Huelva to Charleston at 11s., and another of 1,489 tons from the same place to Baltimore at 10s. 3d.

Spanish pyrites contain from 46% to 51% sulphur, the American from 42% to 44%, and Pilley's Island, N. F., about 50%. Quotations are: American lump ores (basis 52%), $3.25 per long ton f. o. b. mines, Mineral City, Va.; $5 per long ton f. o. b. mines, Charlemont, Mass., and $6.50 per long ton for Pilley's Island, delivered in New York. Fines are $3 per long ton f. o. b. Mineral City, Va.; $4.25 at Charlemont, Mass., and $4.50 for Pilley's Island, delivered in New York. Spanish pyrites, 11@13c. per unit, according to percentage, delivered ex-ship New York and other Atlantic coast ports.

Fertilizing Chemicals.—There has been a better demand for the animal ammoniates, and sulphate of ammonia is stronger. Reports from London state that the present supply of sulphate of ammonia is rather small, while the demand is increasing. The agents of the German Kali works advanced prices to-day as below.

Potash Salts.—Quotations are on the basis of foreign invoice weights, tares and analysis to the ports of New York, Boston and Philadelphia, as follows, per 100 lbs. in quantities of not less than 500 tons bulk salts or 50 tons concentrated salts: Muriate of potash, 80@85%, basis of 80%, $1.78, and 95%, $1.81; sulphate of potash, 90%, $1.98½, and 96%, basis of 90%, $2.01½; double manure salt, 48@53%, basis ash, 66c., and 30%, 89c. For kainit, testing 12.4% actual potash, quotations are: $8.70@$8.95 per long ton of 2,240 lbs. Sylvinit is quoted at 37@38c. per unit sulphate of potash.

Quotations are: Sulphate of ammonia, gas liquor, $2.80@$2.82½ (basis of 25%), per 100 lbs.; bone, $2.70@$2.72½. Dried blood, high grade, Western, $1.57½@$1.60 per unit f. o. b. Chicago; New York, $1.75 per unit. Azotine, $1.70@$1.75, basis New York. Concentrated phosphates (30% available phosphoric acid), 57½c. per unit. Acid prosphates, 13@15%, av. P_2O_5, 60@65c. per unit at sellers' works in bulk. Dissolved bone black, 17@18%, P_2O_5, $16@$16.50 per ton. Acidulated fish scrap, $9.75@$10; dried, $18.50@$19 f. o. b. fish factory. Ammonia superphosphates, high grades, $25@$26 per ton. Tankage, high grade, $15@$15½ per ton f. o. b. Chicago; $18@$18½ at New York. Concentrated tankage, $1.90@$1.95 per unit f. o. b. Chicago; low grade, $13@$13.50 per ton. Bone tankage, $19.50@$20.50; ground bone, $23@$25 delivered. Bone meal, Calcutta, $27, and domestic steamed, $21@$22, and raw, $24@$26 per ton.

Nitrate of Soda.—Only a quiet demand exists, and spot has been quoted at $1.60@$1.62½ per 100 lbs. Futures are still offered at $1.52½@$1.55, but consumers are reluctant to accept.

Phosphate.—The market is very firm, and miners in the different producing centers are not anxious sellers at quotations. It is said some Tennessee producers are quoting as high as $5 to $6 per ton for prompt shipment of the best stuff, f. o. b. mines, while in South Carolina there are miners who will not sell immediate deliveries even at $4. The fact is that the heavy rains and storms have greatly interfered with the output, so that the producers are behind on their contracts. Shipments in February from Port Tampa, Fla., amounted to 14,410 tons, against 13,817 tons a year ago. Of the total moved in February, 1899, there were 5,309 tons hard rock to foreign ports, and the balance pebble, of which 6,272 tons went abroad. Pensacola, Fla., shipped in February 4,918 tons Tennessee phosphates to foreign ports, and 1,500 tons to domestic; total, 6,418 tons, against 11,448 tons in January. Savannah's shipments in February were 6,768 long tons high grade Florida rock, all to Germany, which compares with 4,419 tons in January, to Germany and Holland. Brunswick, Ga., moved 5,698 long tons in February, against 3,555 tons in the previous month; all to foreign ports.

The total February shipments of Florida high grade rock are reported by Messrs. Auchincloss Brothers at 32,630 long tons, against 28,460 tons in January. Of the total shipments in the two months the continent of Europe received 38,330 long tons, against 23,281 tons a year ago; the United Kingdom ports 14,318 tons, against 6,941 tons, and the Baltic ports 5,375 tons, against 2,549 tons, while nothing went to the Mediterranean as against 3,768 tons last year, and 5,088 tons in January and February, 1897. We note also that there were shipped to domestic ports in the first two months of 1899 3,167 long tons, an increase of 2,232 tons over the corresponding period in 1898. The exports in March will show an increase. We note charters as follows: British steamer of 1,108 tons from Fernandina to the continent at private terms; one of 2,800 tons dead weight from Pensacola to Dunkirk at 18s. 6d. ($4.44), May sailing; one of 1,334 tons from Port Royal to Cette at 17s. 6d. ($4.08), April sailing, and one of 1,261 tons from Fernandina or Savannah to Rotterdam at 15s. ($3.60), April sailing. The latest quotations c. i. f. United Kingdom and North Sea ports are as follows, per unit: Florida, 77@80%, hard rock, 9⅛d., all positions; Florida land pebble, 68@73%, 7½d.; Florida Peace River, 58@63%, 7d.; Tennessee, 78@80%, 8d. The Algerian 63@70% phosphate is quoted at 7½d. per unit.

Another lot of about 800 tons of phosphates will soon be sent to Honolulu.

Quotations are: Florida high grade, 75@80% rock, $9.50@$10 per long ton f. o. b. Fernandina. The freight rate to New York is about $2 per ton. Florida land pebble, 68@73%, quoted at $5.50 @$6 per ton, delivered in New York; South Carolina ground rock is nominally at $5.50 to $5.75 per short ton, delivered in New York; sun dried, $3 per 2,240 lbs. f. o. b. Ashley River; hot-air dried, $3.25 f. o. b. same place, and $3.45 f. o. b. Charleston, S. C. Tennessee phosphate is nominally quoted $4@$4½ f. o. b. Mt. Pleasant, according to quality. Domestic Tennessee rock averages 75%, while for export it runs as high as 83% bone phosphate. The difference in the price of this phosphate and Florida high grade is owing to the higher percentage of iron and alumina in the Tennessee rock. The Hickman County (blue rock) prosphate is quoted at $2.25@$2.50 per ton f. o. b. mines.

Liverpool, March 22.

(Special Report of Joseph P. Brunner & Co.)

There is not much fire in the chemical market at the moment, for, although makers are fairly busy with contract deliveries, fresh orders are on a limited scale. Soda ash is selling at varying prices, according to destination, and the maximum stock quotations for tierces may be called about as follows: Leblanc ash, 48%, £4 5s.@£4 10s.; 58%, £4 10s.@£4 15s. per ton, net cash. Ammonia ash, 48%, £4@£4 5s.; 58%, £4 5s.@£4 10s. per ton, net cash. Bags are 5s. per ton under price for tierces. Soda crystals are in request at £2 17s. 6d. per ton, less 5% for barrels, or 7s. less for bags, but lower figures are quoted for certain favored markets. Caustic soda is quiet, but firm, and nearest spot values are as follows: 60%, £6; 70%, £7; 74%, £7 10s.; 76%, £7 15s. per ton, net cash. Bleaching powder manufacturers appear to be well booked with orders, although there is little fresh trade reported on the open market. Hardwood is held for £5 per ton, net cash. Chlorate of potash is inquired for, but actual transactions are on a small scale, at 3½d. per lb. for crystals and 3⅝d. per lb. for powdered. Bicarb. soda is in moderate demand, although quotations vary considerbably, according to market, ranging from £5 5s.@£6 15s. per ton, less 2½%, for the finest quality in 1 cwt. kegs, with usual allowances for larger packages. Sulphate of ammonia is scarce and strong, at £11@£11 2s. 6d. per ton, less 2½%, for good gray, 24@25%, in double bags, f. o. b. here. Nitrate of soda is also in light supply on spot, and holders

have advanced prices to £8 10s.@£8 15s. per ton, less 2½% for double bags, f. o. b. here, as to quantity and quality.

IRON MARKET REVIEW.

NEW YORK, March 31, 1899.

Pig Iron Production and Furnaces in Blast.

Fuel used	Week ending Apr. 1, 1898		Week ending Mar. 31, 1899.		From Jan., '98.	From Jan., '99.
	F'ces.	Tons.	F'ces.	Tons.	Tons.	Tons
An' racite	27	1?,?50	33	28,300	237,165	334,755
Coke.....	150	210,850	14	196,650	2,689,665	2,655,018
Charcoal.	16	5,950	16	4,625	71,606	68,184
Totals..	193	235,350	191	229,575	2,998,436	3,057,957

The market has quieted down a good deal; there is less excitement and no further increases in quotations. The waiting policy adopted by many large buyers is having its effect, and producers of raw iron and steel are inclined to consider the situation quietly and moderately. This is encouraging to buyers, and there is a general disposition among them to wait for the market to settle, as long as they can.

Foundry iron continues in good demand, but sales have been chiefly of small lots. There has been no further advance on Northern irons, but the Southern furnaces are asking more. A number of furnaces are getting ready to blow in in the South and West; and some of the Lehigh Valley furnaces are being put in shape to run. Most of the latter have been idle since 1895.

The heavy sales of Bessemer pig reported last week have settled prices at $14.50 for the next three months. This has had a quieting effect on the market for steel billets. A few sales have been reported at very high prices, but these were all of small quantities, where early deliveries were necessary.

Finished material is in demand, especially structural material, for which a good many contracts are pending. Others, however, are held back until prices are more settled and material can be had at a lower range. An advance of $1 a ton on rails is generally asked but orders placed have been small.

The tube mill consolidation is reported to have made such progress that the organization will shortly be completed. The sheet mill combination is still uncertain, several large concerns holding back.

Notes of the Week.

A despatch from Youngstown, O., March 30th, says: "The Republic Iron and Steel Company, with a capital of $50,000,000 is the new corporation which will control and operate 30 bar mills west of Pittsburg and south to Birmingham. All representatives of the mills returned from New York to-day and reported the organization agreed upon except as to details, and officers will be elected next week. The headquarters will be in Chicago. The details include the erection of a steel plant here to supply the mills with billets. Two blast furnaces in Alabama are included."

Birmingham, Ala. March 27.

(From Our Special Correspondent.)

The lively conditions which have marked the market here seem to have continued, though prices are about as high as they will reach. There have been many interesting rumors for the last ten days in reference to the absorption of the various furnace companies in Alabama, other than the properties of the Tennessee Coal, Iron and Railroad Company, by the Federal Steel Company. It is stated that the properties of the Pioneer Mining and Manufacturing Company, the Sloss Iron and Steel Company, the Woodward Iron Company, and, possibly, the Tutweiler Coal and Iron Company, will be taken under the protection of the Federal Steel Company, and the capital stock of this branch placed at $20,000,000. Mr. Samuel Thomas, of the Pioneer Company, denies the rumor as far as his company is concerned.

The inquiry for pig iron is active. The high prices continue to prevail, and the purchasers are just as anxious to have the product delivered at once. The stocks on hand are not great, but the report that more furnaces are to be put in blast in the near future gives encouragement.

The following prices are quoted: No. 1 foundry, $10@$10.50; No. 2 foundry, $9.75@$10; No. 3 foundry, $9.50@$9.75; gray forge, $8; No. 1 soft, $10@$10.50; No. 2 soft, $9.75@$10.

It is not believed these prices will be bettered any in the near future unless the production is kept down below the demand and an absolute shortage created.

The announcement that more furnaces will shortly be put in blast is a fact. The Pioneer Mining and Manufacturing Company and the Tennessee Coal, Iron and Railroad Company are to have some big iron makers ready for the torch now in a few days. The Tennessee Company is making preparations to remove one of its idle furnaces to Ensley and attach it to the heavy machinery there. It is proposed to have four furnaces in blast there all the time. There are four furnaces there now but only three of them are in blast at one time.

The export trade has been quiet lately. There are two reasons for this—one of them that cotton boats are now fewer and satisfactory arrangements for cargo room cannot be made.

President Nat Baxter, Jr., of the Tennessee Coal, Iron and Railroad Company, announced that a contract has been made with a company to construct a factory at Ensley to manufacture cement out of furnace slag. He states that the company has a factory near Baltimore and will build at Ensley.

Buffalo, N. Y. March 29.

(Special Report of Rogers, Brown & Co.)

The market conditions during the past week show practically no change from those existing for several weeks past. Iron continues to be a scarce article, and it is expected that the prospective increase in the production of iron, which will be limited through inability to obtain raw materials, will be fully offset by the increasing consumption. Charcoal iron has been quiet, with very little of that metal to be offered. Consumers continue to call for shipments on their orders at a rate beyond the ability of furnaces to ship. We quote for cash f. o. b. cars Buffalo: No. 1 Strong Foundry Coke Iron, Lake Superior Ore, $15.50; No. 2 Strong Foundry Coke Iron, Lake Superior Ore, $15; Ohio Strong Softener No. 1, $15; Ohio Strong Softener No. 2, $14.50; Jackson County Silvery No. 1, $15.50; Southern Soft No. 1, $16; Southern Soft No. 2, $15.50; Lake Superior Charcoal, $14.50@$15; Coke Malleable, $15.

Cleveland, O. March 29.

Iron Ore.—Although only a few sales of ore of moderate amounts were made during the past week, the market remains firm. There has been little sold for the reason that but little has been offered. One feature which makes the market so firm so early in the year is the fact that but little of the season's probable output remains unsold. At the present time sellers are able to obtain more money for any ores they may have, than they could have hoped to have obtained a month or six weeks ago, when the basis of prices was fixed and the big contracts were awarded. In some instances the increase over the base price is 25 cents per ton. The present indications are that the buyers who neglected to secure all the ore they needed for the season will be at the mercy of the sellers who find they have something to offer. The prevailing prices are: Specular and magnetic ores, Bessemer quality, $3.50@$4.00; specular and magnetic ores, non-Bessemer quality, $3@$3.50; hematite ores, Bessemer quality, $3.25@$3.75; hematite ores, non-Bessemer quality, $2.50@$2.75.

Pig Iron.—Business has been very active during the last week. The demand for all kinds of iron has been good. On account of the good demand the market prices for everything are very firm, and slight advances are noticed in nearly all the quotations. Following are the quotations, f. o. b. Cleveland: Lake Superior charcoal, $16.50@$17; Bessemer, $15.25; No. 1 foundry, $15; No. 2, $14.75; No. 1 Ohio Scotch, $15.65; No. 2, $15.15; gray forge, $15.

Pittsburg. March 30.

(From Our Special Correspondent.)

The past week has been an eventful one as regards raw and manufactured material; prices are held firm and irregular; producers don't know just what figures to demand; on the other hand, producers who have contracts on their hands are so situated that material must be obtained to keep their plants running and meet their engagements. Hence there is little sign of reaction, but on the contrary, the market is as strongly aggressive as it has been at any time since the first of the year. Conditions are unchanged, hence the upward movement in prices, which will no doubt continue until there is either a larger supply or a smaller demand. In some instances consumers who are covered to June or July are debating whether they should buy enough more to run them until October or wait and give the market a chance to settle iself.

Producers, generally, express themselves as desirous of encouraging the latter course as they are equally anxious to have a settled market. The presumption is that with the amount of business in sight, prices cannot recede to any extent, and in case the situation continues favorable until midsummer further advances may then be made with perfect safety. The entire matter, therefore, resolves itself into the question whether to postpone large contracts until a later date, or to close at once on best terms available. It may be said with perfect safety that the selling interests are not now anxious for additional business, but if it is forced on them there is no alternative but still higher prices.

Finished Material.—There is a continued active demand for all kinds of mill production and manufacturers can virtually name their own prices for March and April deliveries. The Eastern Bar Association has adopted the Western list of extras, which will, no doubt, be an advantage all around.

Ferro-Manganese.—The market is very firm; prices are steadily advancing. Sales reported, $75@$78.

Muck Bar.—The market holds firm; with sales of good neutral, $25 delivered.

Wire Nails.—The reported advance was not correct; the present rates are $2.05 for round lots, 5@10c. more for less than a car-load.

Skelp Iron.—Market very firm; demand exceeds supply. Iron sheared is $1.70@$1.75; grooved, $1.55; steel skelp, sheared, $1.70; grooved, $1.50.

Sheet Bars.—Market reported fair; prices nominal at $28.

Latest.—The demand for iron and steel has been less active, buyers being disposed to hold off for the present. Prices are fully maintained all along the line. Sheet bars are very scarce, and prices have further advanced. Ferro-Manganese is now held for a further advance. Scrap iron and old rails are scarce and very firm with an upward tendency.

COKE SMELTED LAKE AND NATIVE ORE.

Tons.	Cash.
90,000 B , J. to J., V...$14 50	
20,000 B., J., A., S., V. 14.50	
10,000 B., J., A., S., V... 14.50	
3,000 B., A., P..... 14.75	
2,000 B., A., M., J., P. 15.65	
1,500 B., A., M., P..... 15.25	
1,500 B. A., M., P. ... 15.50	
1,500 O. B., M., A., M., V 14.25	
1,000 B , spot, P..... 15.50	
1,000 B., M., A., V..... 15.00	
1,000 B., M., A., P. 15.50	
1,000 Mill Iron, A., P.. 14 00	
700 B., M., A., V..... 14 00	
500 B., A., M., P..... 15.25	
500 Off B., A., P..... 14.25	
500 No. 1 F'dry, P.... 16.25	
500 Mill Iron, p., P.... 14.50	
500 B., A., M., P., .. 15.00	
400 No. 1 F'dry, P... 16.00	
300 No. 3 F'dry, P... 14 50	
250 No. 2 F'dry, P... 15.25	
100 No. 1 F'dry, P... 16.25	
100 No. 2 F'dry, P.... 15.25	

BLOOMS, BILLETS, SLABS.

500 B., A., M., J., P..$25.00	
500 Billets, A., M., P. 25.25	
250 Billets, A., M. P. 24.75	
250 Billets, A., P 25.00	

MUCK BAR.

Tons.	Cash.
1,000 Neutral, P.	$24.50
500 Neutral, P.....	24.50

BASIC WIRE RODS.

50 Basic Rods, P....$40.00	

CHARCOAL.

253 Warm Blast, P..$16.50	
269 Warm Blast, P.. 17.60	
200 Cold Blast, ex., P. 25.00	
200 Cold Blast, P.... 21.50	
200 Cold Blast, P.... 21.50	
75 Warm Blast, P. 21.00	
50 Cold Blast, P. ... 21.00	

OLD IRON AND STEEL RAILS.

3,000 Iron Rails, gr., V.$19.00	
2,000 Steel Rails, gr., V 14.00	
1,000 Steel Rails, gr., V 13.80	
1,000 Iron Rails, gr., P. 20.00	
1,000 Iron Rails, gr., P. 19.25	

SCRAP MATERIAL.

1,000 M. S., gr., P.....$14.75	
600 No. 1 W. S., net, V 15.00	
600 M. S., gr., P. ... 13.50	
400 No 1 Wr't net, P. 16.00	
400 No. 1 C. S. gr., P. 13.50	
300 M. S. T., net, P... 7.50	
200 Bush Sc , net, P. 11.00	
200 Cast B'gs., net, P. 8.00	
100 Iron Axles, net, P 20.00	

Philadelphia, Pa., March 31.

(From Our Special Correspondent.)

Pig Iron.—The pig iron market is quieter, and there is no immediate danger of a revival of demand. Predictions of higher prices are quite frequently heard. The basis of it is the fact that there are a host of unsatisfied buyers. Makers are still holding off; in fact, they have no iron to sell. It now turns out that they have more unsold capacity than they admitted, and this week some urgent customers were accommodated with May deliveries. The strain is over for the present. With the large number of furnaces soon to be adding their share to the market, there will be enough now, it is argued, to supply the actual demands, but this is an unsubstantiated opinion. The fact still remains, there is a large unsatisfied demand in reserve, and no one can tell what these people may do. Quotations are given to-day as follows: No. 1 X Foundry, $16.50@$17; No. 2 X Foundry, $15.75@$16.25; No. 2 Plain, $15.25@$15.50; Standard Mill, $15.25@$15.50; basic, $15@$15.25; Low Phosphorus, $18.50@$19.50.

Billets.—With billets at $25.50 at Pittsburg, it is impossible to give more than such nominal quotations as would be indicated by the difference in freight. As there has been no business and as makers refuse to sell, it is impossible to determine what prices are.

Merchant Bars.—The new list is giving satisfaction. The business since Monday does not count up much, but the manufacturers are not yet quite ready to accept business. Common iron has hardened perceptibly and is quoted as high as 1.45c.; refined, 1.50@1.55c.; test bars, 1.65c.; steel, 1.60@1.70c.

Sheets.—The pressure for business is still urgent. Buyers are coming back with bigger orders. No. 10, 2.60c.; No. 28, 3.20c. The mill managers are doing their best to keep customers in good humor.

Pipes and Tubes.—The same strong tendency continues. Mills are full, managers are under promises to needy customers, and business is swinging in at a rapid rate. Prices are high, and are going higher, as the result of strong pressure for early deliveries.

Merchant Steel.—The next month is looked to as a critical one in the merchant steel business. Despite the high prices, business is coming in and large Eastern consumers are now asking prices on still larger quantities of various kinds of steel to see them through the summer. The apprehension is that prices may be advanced on them.

Plates.—There is nothing to prevent a general

advance in plate mill products. Quarter-inch plate was contracted for to-day at 2.20c. Shell is 2.20@2.30c.; flange, 2.40c.; fire-box, 2.50c. The condition of business at mills is such that managers cannot even look at anything more. Yet there are parties representing bridge builders now talking earnestly about closing for unusually large quantities of material. The small buyers are also on hand, and will not take a refusal. Putting everything together, the mill men have a hard time to meet and satisfy all.

Structural Material.—The demand for structural material is stronger this week than last. There is a rumor that the representatives are to meet soon. Angles and 15-in. beams, 1.55c.

Rails.—The quotations given are $27@$28. There are several railroad managers whose arrangements are suffering by delay, and it is probable business will soon be reported from these.

Old Rails.—The rush is over, and rails are quoted to-day $12, or 50c. off the high-water mark price of last week. Old steel rails, $11.25@$12.50, according to length. Quick as the turn came, several lots of old rails were offered at outside prices. They will probably go at $17.

Scrap.—The scrap dealers have been having everything their own way for a long time. Things have changed, and scrap is not wanted so much for two reasons. A great many have bought, and the high prices brought out scrap that otherwise would never be heard of. Turnings, $7.50; car axle, $16.50; heavy steel scrap, $11.50; steel turnings, $9.50.

New York. March 31.

Business has been good, consumers realizing that prices are not likely to fall for some time. In foreign trade we note orders from Brazil for agricultural machinery and railroad material, shipments to Argentina of $25,000 worth of agricultural machinery, $13,230 worth of manufactured iron, $15,000 worth of tubing, and a large consignment of contractors' supplies and shipments to South Africa of $30,000 worth of manufactured iron and $25,000 worth of steel rails. European business includes shipments of $30,000 worth of agricultural machinery and an order for $15,000 worth of wood-working machinery to Belgium; $18,000 worth of electrical machinery and $10,000 worth of iron pipe to Denmark; shipments of $100,000 worth of agricultural machinery, $25,000 worth of pumps and $30,000 worth of metal working machinery to France; large shipments of agricultural machinery, $21,000 worth of metal working machinery and $10,000 worth of iron pipe to Germany; while shipments to England include $15,000 worth of bridge material and heavy shipments of light machinery and manufactured iron and steel.

Pig Iron.—The temperature of the market is much cooler than a couple of weeks ago, and there is a pretty general feeling that prices are not likely to go any higher.

We quote Northern brands, tide-water delivery, No. 1 X foundry, $16; No. 2 X foundry, $15.50; No. 2 plain, $15.25; gray forge, $14.75; Southern brands, New York delivery; No. 1 foundry, $15.75; No. 2 foundry, $15.50; No. 1 soft, $15.50; No. 2 soft, $15.25; No. 3, $14.75.

Warrant irons actually fell off a trifle during the week, No. 2 Alabama declining from $10⅞ to $10⅝; No. 3 from $10¼ to $10; No. 4 from $9⅞ to $9¼, and gray forge from $9⅞ to $9¼.

Ferro-manganese and Spiegeleisen.—The demand for foreign ferro is very heavy, but English furnaces are filled with orders, and there is no prospect of relief. Imported 80% is quoted as high as $75 at Pittsburg.

Spiegel is in strong demand, and domestic 18% is quoted $28 per ton f. o. b. furnace. Importations are small.

Cast Iron Pipe.—The 3,000 tons for Brooklyn have not been awarded to any mill yet. The big Yokohama order is reported taken by a French concern.

Bar Iron.—The price is steady at 1.60c. for refined bars in large quantities on dock. Business is fair.

Plates.—Quotations are: Tank, ¼-in. and heavier, 2.10@2.20c.; shells, 2.20@2.30c.; flange, 2.30@2.40c.; marine, 2.40@2.50c.; firebox, 2.60c. All for large lots on dock. Universals are up to 2.15c.

Steel Rails and Rail Fastenings.—The quotation of $28 f. o. b. mills for small lots of standard sections seems to be about the maximum. Track fastenings are quoted: Angle bars, 1.35c.; spikes, 1.70c.; bolts, 2.15c.

Structural Material.—A large amount of material has been contracted for recently. Several compartment houses and mercantile buildings have been contracted for, and other orders are in sight. Quotations for large lots at tide-water are: Beams, 1.65c.; angles, 1.50c.; channels, 1.60c.; tees, 1.60c.

METAL MARKET.

NEW YORK, Mar. 31, 1899

Gold and Silver.

Gold and Silver Exports and Imports
At all United States ports, February and year.

	February.		Year.	
	1898.	1899.	1898.	1899.
GOLD.				
Exports	$1,030,412	$324,840	$3,689,075	$2,655,343
Imports	6,162,681	5,148,906	12 656,095	11,214 986
Excess	I. $5,132,269	I. $4,824,066	I. $8,967,029	I $8,559.613
SILVER.				
Exports	3,759,971	4,562,196	8,061,791	9,921,096
Imports	2,085,635	1,427,027	4,621,096	4,018,745
Excess	E. $1,674,336	E. $3,135,189	E $3,440,695	E. $5,902,351

This statement includes the exports and imports at all United States ports, the figures being furnished by the Treasury Department.

Gold and Silver Exports and Imports, New York
For the week ending March 31st, 1899, and for years from January 1st, 1899, 1898, 1897, 1896.

Period	Gold.		Silver.		Total Excess, Exp. or Imp.
	Exports.	Imports.	Exports.	Imports.	
We'k	$247.050	$218,037	$525,055	$19,382	E. $534,686
1899..	1,127.229	4,615,644	7,453,253	728,756	E. 3,206,082
1898..	3,835,335	31,039,611	9,724,309	1,332,363	I. 18,8 2,330
1897..	1,955,911	1,069,179	10.169 543	578,635	E. 9,637.640
1896..	10,164,985	16,127,507	10,509,417	520,609	E. 4,026,286

Exports of gold were chiefly to the West Indies; of silver to London. Imports of gold and silver were in small lots from various sources.

The United States Assay Office in New York reports the total receipts of silver at 72,000 oz. for the week.

Financial Notes of the Week.

Business continues active, and prices are gradually working up in almost all branches of trade. The general situation is good, though there are signs that some men are taking alarm, and are trying to contract a little and get ready for the reaction.

We have still a demand for money from the interior, and rates of interest are pretty well kept up. The new industrial securities and combines are absorbing a good deal of money, and there is not as much idle as there was some months ago.

The market for silver has been fairly steady. Tenders from the French Government next week for 30,000 kilos have strengthened the market at the close, and slightly higher prices are probable until this contract is closed.

Specie receipts by water at San Francisco for the two months ending February 28th are reported as below:

	Gold.	Silver.	Totals.
Bullion	$108,850	$242,881	$351.731
Coin	5,161,138	53,145	5,214,283
Totals.	$5,269,988	$296,026	$5,566,014

The receipts were from British Columbia, $22,256; Mexico, $369,440; Central America, $112,238; Japan, $259,025; China, $179,880; Australia, $4,623,175.

The statement of the United States Treasury on Thursday, March 30, shows balances in excess of outstanding certificates as below, comparison being made with the statement for the corresponding date of last week:

	March 23.	March 30.	Changes.
Gold	$242,244,166	$243,866,019	I. $1,621,853
Silver	5,150,475	4,967,091	D. 183,384
Legal tenders	13,700,579	13,721,846	I. 21.267
Treas. notes, etc..	1,083,401	882,641	D. 200,760
Totals	$262,178,621	$263,437,597	I. $1,258,976

Treasury deposits with national banks amounted to $89,500,829, an increase of $56,273 during the week.

The statement of the New York banks—including the 66 banks represented in the Clearing House—for the week ending March 25th gives the following totals, comparison being made with the corresponding weeks in 1898 and 1897:

	1897.	1898.	1899.
Loans and discounts	$504,478,200	$600,168,400	$779,481,80)
Deposits	571,723,000	685,650,500	902.250,70)
Circulation	15,826,800	13,861,400	13,820,800
Reserve:			
Specie	85,996,900	136,289,600	190,2?2,500
Legal tenders	105,829,600	68,974,500	53,857,600
Total reserve	$191,826,500	$205,264,100	$244,120,100
Legal requirement	142,930,750	171,412,625	225,562,675
Balance surplus	$48,895,750	$33,851,475	$18,557,425

Changes for the week this year were increases of $5,530,000 in loans, $203,200 in specie, $129,800 in legal tenders, and $3,339,000 in deposits; decreases of $576,750 in surplus reserve and $66,100 in circulation.

The following table shows the specie holdings of the leading banks of the world at the latest dates covered by their reports. The amounts are reduced to dollars, and comparison is made with the holdings at the corresponding dates last year:

Banks.	1898. Gold.	1898. Silver.	1899. Gold.	1899. Silver.
N. Y. Assoc.	$136,289,600	.....	$190,262,500	.....
England	162,320,240	.....	154,042,500	.....
France	372,475,323	$243,615,385	362,778,200	$239,274,400
Germany	160,865,000	82,870,000	150,155,000	77,355,000
Aus.-Hun.	184,240,000	62,560,000	179,570,000	62,606,000
Spain	47,976,000	54,250,000	58,040,000	56,300,000
Belgium	14,360,000	7,180,000	15,965,000	7,985,000
Netherlands	13,825,000	34,610,000	21,560,000	34,395,000
Italy	77,105,000	9,185,000	76,130,000	11,750,000
Russia	577,190,000	21,225,000	487,985,000	22,720,000

The returns for the Associated Banks of New York are of date March 25th, the Banks of England and France March 30th, and the others are of date March 23d, as reported by the "Commercial and Financial Chronicle" cable. The New York banks do not report silver separately, but the specie carried is chiefly gold coin. The Bank of England reports gold only.

Shipments of silver from London to the East for the week ending March 16th, 1899, are reported by Messrs. Pixley & Abell's circular as follows:

	1898.	1899.	Changes.
India	£1,582,850	£1,017,000	D. £565,850
China	194,096	264,180	I. 70,084
The Straits	94,784	24,907	D. 69,877
Totals	£1,871,730	£1,306,087	D. £565,643

Receipts for the week were £190,000 from New York and £35,000 from the West Indies, a total of £225,000, all bar silver. Exports were £276,000 bar silver to Bombay, £2,400 Mexican dollars to China, and £20,000 Mexican dollars to the Straits; a total of £298,400.

Indian exchange is very steady and the demand for bills continues large, though the export trade in India is less active. Very little silver is going forward. The Council bills offered in London were all taken at an average price of 16.01d. per rupee.

Daily Prices of Metals in New York.

March.	Sterling Exchange.	Silver. Fine oz. Cts.	Silver. London. P'nce	Copper. Lake, cts. ₩ lb.	Copper. Elec-tro-lytic, ₩ lb.	Copper. Lond'n standard £ ₩ ton.	Tin, cts. ₩ lb.	Lead, cts. ₩ lb.	Spel-ter, cts. ₩ lb.
25	4.85½	59⅝	27½	17	15½	.....	23¾	4.40	6.45
27	4.85½	59⅝	27 7/16	@17¼	@16	68 15 0	24	4.37½	6.50
28	4.85¾	59½	27 7/16	17⅛	16	69 15 0	24⅛	4.37½	6.50
29	4 86¼	59½	27 7/16	17¾	@16⅛	69 5 0	24⅛	4.35	6.50
30	4.86¼	59¾	27½	18	16⅛	69 18 9	24⅛	4.32½	6.50
31	4.86¼	59¾		18	@17		24⅛	4.32½	6.50

Average Prices of Silver per oz. Troy.

Month	1899. Lond'n Pence.	1899. N. Y. Cents.	1898. Lond'n Pence.	1898. N. Y. Cents.	1897. Lond'n Pence.	1897. N. Y. Cents.
January	27.42	59.36	26.29	56.77	29.74	64.79
February	27.44	59.42	25.89	56.07	29.68	64.67
March	27.48	59.64	25.47	54.90	28.96	63.06
April	.....	.....	25.95	56.02	28.36	61.85
May	.....	.....	26.31	56.98	27.86	60.42
June	.....	.....	27.09	58.61	27.58	60.10
July	.....	.....	27.32	59.06	27.36	59.61
August	.....	.....	27.48	59.54	24.93	54.19
September	.....	.....	28.05	60.68	25 66	55.24
October	.....	.....	27.90	60.42	26.77	57.57
November	.....	.....	27.93	60.60	26 87	57.93
December	.....	.....	27.45	59.42	26.83	58.01
Year	....	...	26.76	58 26	27.55	59.7

The New York prices are per fine ounce; the London quotation is per standard ounce, 925 fine.

Average Prices of Metals per lb., New York

Month.	COPPER. 1899.	COPPER. 1898.	TIN. 1899.	TIN. 1898	LEAD. 1899.	LEAD. 1898.	SPELTER. 1899.	SPELTER. 1898
Jan	14.75	10.99	22.48	13.87	4.18	3 65	5.34	3.96
Feb.	18 00	11.28	24.20	14 08	4.49	3.71	6.28	4.04
March	17.54	11.94	23.82	14 38	4.37	3.72	6.31	4 25
April	.....	12.11	.....	14.60	.....	3.63	.....	4.26
May	.....	12 00	.....	14.52	.....	3.64	.....	4.27
June	....	11 89	.....	15.22	.....	3.82	.....	4 77
July	...	11.63	.....	15.60	.....	3.95	.....	4 66
August	...	11 89	.....	16.23	.....	4.00	....	4.58
Sept.	.....	12.31	.....	16.03	.....	3.99	.....	4.67
October	.....	12.41	.....	17.42	.....	3.78	.....	4 98
Nov.	.....	12.86	.....	18.20	.....	3.70		5.29
Dec	.....	12.93	.....	18.30	...	3.76	.....	5.10
Year.	.....	12 03	.....	15.70	.....	3.78	.....	4.57

The price given in the table is for Lake Copper. The average price of electrolytic copper in January was 14.26c.; in February it was 17.02c.; in March, 16.35c.

Prices of Foreign Coins.

	Bid.	Asked
Mexican dollars	$ .47½	$ .48¾
Peruvian soles and Chilean pesos	.42½	43
Victoria sovereigns	4.85	4.87
Twenty francs	3.85	3.88
Twenty marks	4.74	4.78
Spanish 25 pesetas	4.78	4.84

Other Metals.

Copper.—The market contrasts very favorably with the conditions which prevailed when we last went to press. There has been an unexpected, sudden and large resumption of purchases and they have demonstrated that the quantities unsold for the next few months must be extremely light, else the advance which has been established could not have been quite so pronounced as it has been. We quote Lake copper at 17½@18c., electrolytic copper in cakes, wirebars or ingots at 16½@17c., electrolytic copper in cathodes at 16¼@16¾c., and casting copper at 16¼@16¾c. Business with manufacturers is extremely brisk, and they are experiencing a great deal of trouble on account of not getting supplies as quickly as their necessities demand—a condition which is likely to continue for some time to come, seeing how closely sold up most of the producing companies are.

The London market, which closed last week at £66 10s., opened on Monday at £68 10s. and advanced subsequently to £69 15s., when a reaction set in, bringing the price down to £69 5s., but not only has this loss been recovered, but the market has scored an additional advance, the closing price being £70 for both spot and three months. Consumers abroad have not secured any supplies beyond such as cover their immediate wants, and under the circumstances an active demand may be looked for from that direction. Refined and manufactured sorts abroad, we quote: English tough, £73 10s.@£74; best selected, £74 10s.@£75; strong sheets, £80; India sheets, £78; yellow metal, 7⅛d.

Tin.—Prices have improved to a moderate extent, the closing figures here being 24¼@24¼c. for spot, 23⅞@24c. for distant deliveries.

The London market, which closed last week at £107 10s., opened on Monday at an advance of 15s., and improved on the following day still further, the quotation reaching £110 for spot, £110 15s. for three months. Since then the market has reacted slightly, but closes fairly steady at £109 12s. 6d. for spot, £110 5s. for three months.

Exports of tin from the Straits Settlements in January were, in long tons:

	1897.	1898.	1899.
United States	625	2,002	2,225
Europe	2,286	2,775	1,340
India and China	161	213	26
Totals	3,072	4,990	3,591

There was a decrease this year of 1,399 tons, or 28%, as compared with last year.

Lead has been very dull, and values have suffered to the extent of 7½@10c. per 100 lbs., the closing price to-day being 4.30@4.32½c., with the demand very light. The offerings, it is true, are not very plentiful, else prices would have given way still further.

The foreign market continues firm, with the quotations unchanged from those of last week, namely, £14 7s. 6d. for Spanish lead, £14 10s. for English lead.

St. Louis Lead Market.—The John Wahl Commission Company telegraphs us as follows: "Lead is dull and slowly declining. Common lead is selling at 4.15@4.17½c., and corroding metal is worth nominally 4.20c. This appears to be considerable lead for sale from various channels and the market tendency continues downward." ADD Anthracite

Spelter.—The demand continues unprecedentedly large, and supplies are beginning to get very scarce. Prices continue to improve slowly but steadily, the closing figures being 6.15@6.20c. at St. Louis, 6.45@6.50c. at New York.

The London market is undergoing experiences similar to ours. Supplies there are very meager too, and are likely to become still more so in view of the fact that the quantities which they have been receiving from here, and which were at the rate of about 1,500 to 2,000 tons per month, have fallen off considerably, and are likely to do so still further, on account of our inability to spare any metal for them. The closing prices in their market are £27 15s. for good ordinary brands, £28 for special brands.

Antimony.—The prices are unchanged from last week, namely 10@10½c. for Cookson's; 9¾@10c. for Hallett's, C., U. S. Star and Hungarian.

Nickel continues on unchanged lines, and no alteration in prices can be reported. We quote for ton lots 33@36c. per lb., and for smaller orders 35½@38c. London prices are 14@16d. per lb., according to size and order.

Platinum.—Demand is active and prices continue high. For large lots $15.50 per ounce is now quoted in New York; for smaller orders, $16@$17. The London quotation is 62@64s. an ounce.

Quicksilver.—The New York quotation remains $42 per flask. The London price is £8 5s., with £8 1s. 3d. named from second hands.

The Minor Metals.—Quotations are given below for New York delivery:

Aluminum.	Per lb.		Per lb.
No. 1, 99% ingots	.35@37c.	Bismuth	$1.40
No. 2, 90% ingots	.31@34c.	Magnesium	$2.75@$3
Rolled sheets	.38c. up	Phosphorus	.48@50c.
Alum.-bronze	.20@23c.	Tungsten	70c.
Nickel-alum.	.33@39c.	Ferro-tungsten, 60%	60c.

Variations in price depend chiefly on the size of the order.

Imports and Exports of Metals

Port.	Week, Mar. 29. Expts.	Impts.	Year, 1899. Expts.	Impts.
***New York.**				
Aluminum, long tons			170	10
Antimony ore, " "		137		523
" regulus, " "		45		241
" oxide " "				11
Chrome ore " "				110
Copper, fine " "	1,242	333	13,679	2,929
" wire " "	59		388	
" matte " "	26		278	433
" ash " "		5		51
" sulphate " "	46		2,721	
" other " "				30
Ferro-chrome " "				
Ferro-mangan'se " "				51
Ferro-silicon " "				
Iron ore " "			5	
" pig, bar, rod " "			1,669	585
" pipe " "	311		8,404	
" plates, sheets " "			179	
" other " "	30		308	
Lead " "	632	1,111	14,053	12,540
" ore " "				
Manganese, ore " "		1231		415
§Metals, old scrap " "	965	‡24	1,398	612
Composition " "			1,890	
Nails " "	989		4,720	
Nickel " "			502	5
§Railr'd material " "	26	‡115	3,056	830
Rails, old " "			3,859	
Spiegeleisen " "		‡50		178
Steel bars, plates " "	1,078	106	14,546	3,693
" rails " "			17,710	
" hoops " "	15		366	
" wire " "	217		8,387	25
" not spec'd. " "		51	2,391	683
Tin " "		500		6,045
" dross or ashes " "	5		53	
" and black plates, boxes		3,077		117,804
Zinc, long tons		25	100	68
" dross " "	11		284	
" dust or ashes " "	3		367	10
" ore " "	1,018		3,022	
" oxide " "	62	‡15	1,250	114
" skimmings " "			342	
†Baltimore.				
Alumina, bags				1,165
Aluminum, long tons				
Antimony regulus, casks				42
Brass scrap, long tons				
Chrome ore " "				
Copper, fine	480		9,525	
" matte				
" sulphate	145		1,035	
Ferro-manganese " "		195		1,022
Ferro-silicon " "				130
Iron pig, bar, etc. " "			3,033	2,651
" ore " "		7,293		63,376
" pipe " "	60		2,949	
" pyrites " "		3,099		9,683
" other " "	68		585	15
Lead " "				
Machinery " "			115	
Manganese ore " "		619		11,194
Metals, scrap " "	207		1,567	7
Nails " "			151	
Spiegeleisen " "				569
Steel, bars, pl'es " "	198		12,908	48
" wire " "		10	329	129
" rails " "	250		8,786	
" pipe " "			573	
not specified " "	20		207	
Tin " "				512
" dross " "				1,100
Zinc, long tons			18	
" dross " "			60	
" skimmings " "			70	
***Philadelphia.**				
Antimony, casks				
Chrome ore, long tons				320
Copper ore " "				14,639
Ferro-manganese " "		‡150		354
Iron, pig " "				
" ore " "		13,900		24,250
" pyrites " "				
Manganese ore " "		13,298		14,658
Spiegeleisen " "		‡140		636
Steel " "				
Tin " "		‡861		395
" and black plates, boxes				861
Zinc ore, long tons			3,093	
***Galveston.**				
Lead, long tons			652	
Zinc " "			560	
***Boston.**				
Tin, long tons				125
***Newport News.**				
Copper, long tons			383	
***Norfolk, Va.**				
Copper, fine, long tons			482	
Iron, pig " "			8,647	
" pipe " "			410	
Steel, bars, billets " "			2,058	
" not specified " "			477	
***New Orleans, La.**				
Copper, fine, long tons			352	
" matte " "			1,271	
Zinc " "			900	
" ore " "			250	
***San Francisco, Cal.**				
Tin, long tons				199

*New York Metal Exchange returns. †By our Special Correspondent. §Not mentioned elsewhere. ‡Imports for week, March 23d.

The duties on metals under the present tariff law are as follows: Antimony, metal or regulus, ¾c. a lb. Lead, 1½c. a lb. on lead in ores; 2½c. per lb. on pigs, bars, etc.; 2½c. on sheet, pipe and manufactured forms. Nickel, 6c. per lb. Quicksilver, 7c. per lb. Spelter or zinc, 1½c. per lb. in pigs and bars; 2c. on sheets, etc. Copper, tin and platinum are free of duty.

MINING STOCKS.

Complete quotations will be found on pages 399, 400 and 401 of mining stocks listed and dealt in at:

Baltimore.	New York.	Mexico.
Boston.	Philadelphia.	Paris.
Butte.	St. Louis.	Rossland.
Cleveland.	Salt Lake.	Shanghai.
Colo. Springs.	San Francisco.	Toronto.
Denver.	London.	Valparaiso.
Spokane.		

New York. Mar. 31.

This has been a quiet week, and to-day (Good Friday) all the exchanges are closed.

Of the stocks dealt in the Colorados continue to attract most attention. In this group Portland sold at $1.72@$1.75; Elkton, at 80@92½c.; Isabella, at 83@87½c., and Iron Silver, at 70c.

In the California list, Standard sold at $2.50@$2.65. Quicksilver, common, brought $3@$3.50, and the preferred stock, $9½.

The Comstocks show a little better tone, and transactions were recorded in Consolidated California & Virginia at $2.30@$2.45; Mexican, at 80c.; Sierra Nevada, at $1.30, and Union, at 70c.

Anaconda copper of Montana did not fluctuate as widely as last week, and sales were made in smaller lots. On March 25th the stock opened at $43⅜@$43⅝ on sales of 500 shares; March 27th the price rose to $43¾@$44½, on 2,425 shares; on the 28th a still further gain was made to $44⅛@$44¾, on dealings in 1,425 shares; on the 29th 270 shares changed hands at $44@$44¼, and on the 30th, $44¾ was the price, and only 10 shares were sold. The company has declared its regular quarterly dividend of $1.25 per share, payable May 3d. Alice sold last Saturday at $1, and on Thursday bids were made for it at 80c.

Deadwood Terra of South Dakota brought 75c., and Horn Silver of Utah $1.40.

The securities of the American Smelting and Refining Company were called on the curb, but no transactions of note are reported. The common shares were quoted at $42½@$44½; the preferred at $85@$86¾, and the subscriptions at about $115.

Auction sales noted are the following bonds of the Virginia, Tennessee & Carolina Steel and Iron Company: $12,000, 8%, at $1,500 for the lot; $46,000, 6%, at $500 for the lot, and $17,000, mortgage, for $100. We also note a sale of $25,000 1st mortgage 6% bond of the Appalachian Steel and Iron Company, of Virginia, at $300 for the lot.

Dividends recently declared by industrial concerns include the following: Consolidated Kansas City Smelting and Refining Company, 1¾% quarterly on the preferred stock, payable April 15th; American Steel and Wire Company, preferred stock, 1¾% quarterly, payable April 15th; American Tin-Plate Company, preferred, 1¾% quarterly, April 29th; Central Coal Company, common, 2%, April 3d; Federal Steel Company, preferred, 1½%, April 5th; Texas & Pacific Coal Company, 1¼%, April 20th.

Boston, March 30.

(From Our Special Correspondent.)

This week has shown a decided change from last week's reaction, and stocks have gone up all round. We have had what our brokers call a broad market; that is, good prices and plenty of sales. The main attention has been paid to railroad and industrial shares, but the copper stocks have had no reason to complain. The boom seems to be on again, for a time at least.

The week has been comparatively free from rumors and reports, and we have heard little or nothing of the famous copper consolidation. The gold stocks have received a good deal of attention, and are bringing pretty high prices all around.

Dominion Coal is having an especially strong rise. This stock, which sold at $6 in 1896, and opened the present year at $33, sold this week at $57, with only a slight reaction following.

Application will soon be made to list the Bingham Copper and Gold Mining stock in Boston. The papers are now being prepared.

It is the intention of the management of the United States Mining Company to list the stock in Philadelphia. This will be the first Boston copper mining stock to be listed outside of the local exchange, but others will probably follow.

The Franklin Mining Company has called its annual meeting for April 12th. Notice is also given of a proposition to increase the capital stock from 80,000 to 100,000 shares of $25 each.

Why this should be done is a mystery; though the directors say that the stock is to be kept in the treasury and used as occasion requires. A good many people, however, do not see much use putting more money into Franklin.

3 p. m.—The market was active to-day, but more attention was given to railroads and industrials, mining stocks being rather neglected. Dominion Coal was a favorite, selling up to $56¼. For copper and gold stocks quotations have been as follows: Calumet & Hecla, $770; Montana, $360; Quincy, $165; Osceola, $90¾; Butte, $85; Arcadian, $68; Tamarack, $249; Old Dominion, $45; Parrot, $48¼; Centennial, $46⅛; Isle Royale, $65½ bid; Cochiti, $14½; Santa Fe, $16½; Rhode Island, $14; Tecumseh, $8½; Old Colony, $16 bid; Gold Dredging, $36 bid; Mohawk, $30½; Miners, $41½ bid; Michigan, offered at $15½; Merced, $10 bid; Mass, offered at $14; Union, $8 bid; Ysabel, $15⅞; Wolverine, $45½; Atlantic, $34½; White Knob, offered at $20½; Victoria, $7½ bid; Utah, $42; Tri-Mountain, $12 bid; Adventure, $14½; Allouez, $10; United States, $20½; Arnold, $10¼; Baltic, $30 bid; Bonanza, $2; Fortuna, 90c.; Bingham, $13¼ bid; Humboldt, $2¾; Franklin, $26.

Salt Lake City, March 25.

(From Our Special Correspondent.)

Substantial improvement in Utah mining share trading has been in progress for a fortnight; though the first beginnings were somewhat uncertain. Each day during the current week the change for the better was noticeable. The volume of business is increasing and the shares growing in favor cover a wider range. Backwardness of the opening of the mining season, due to the most unprecedented snow falls, at present seems the most serious drawback. This must soon end, with the beginning of an active campaign among the mines.

Centennial Eureka well maintains the advance and but few shares can be had at the higher asked price. Bullion-Beck is firm and unchanged, with good demand for the stock. Ajax is firm and stationary. Four Aces did less business, and, after the usual fluctuations, closes at about last Saturday's figures. Eagle & Blue Bell is moving up to the $2 point, with more favorable reports from the mines. Star Consolidated closes just above $1. Swansea has topped $4, where it appears to be firm. Sunbeam, after a display of strength which carried is above 80c., quietly sagged. Joe Bowers is stronger and in favor on report that the troubles over titles are compromised.

Mercur is taking on more strength, and is in demand. There is quite a general expectation that dividends will be resumed in April; though I believe it will be wise to put this off till May or June. Sunshine has moved up to 89½c. bid, and it is known that Gill S. Peyton et al. have an option on much more than the control of the stock, with the intent of speedily resuming active operations. Sacramento has been active and higher with numerous inquiries. Eagle's lively spurt is attributed to a promising ore find. Omaha is stronger, and so is Chloride Point, which has moved up several points.

Dalton is in fair demand. Horn Silver is a little less in evidence, and a shade off. Galena and Utah are about stationary, and afford nothing new. Dalton & Lark is up a point and is inquired for. Daly West shows more strength. The other Park City shares are firm and practically unchanged.

San Francisco, March 25.

(From Our Special Correspondent.)

A quiet market, with no great strength in prices, has been the rule this week. Business has been moderate, and inside trading continues to constitute most of it. The outside orders are still mainly in the future.

Some quotations noted are: Consolidated California & Virginia, $2.25@$2.30; Sierra Nevada, $1.35; Confidence, $1.25@$1.30; Ophir, $1.20; Challenge Consolidated, 54c.; Chollar, 42c.; Yellow Jacket, 39c.; Crown Point, 35c.

A call has been issued for a convention of miners from all the counties of Southern California, to be held in the hall of the Chamber of Commerce, at Los Angeles, on Saturday, April 29th. The purpose of the convention is to organize a Southern California Miners' Association, which will be a branch of the California Miners' Association. Those who are promoting this new organization believe that it is better to form one association of the southern miners, to be a part of the State association, with its headquarters in Los Angeles, than to have numerous small county associations scattered throughout that part of California. The petroleum producers will be asked to join in the organization.

London. March 29.

(From Our Special Correspondent.)

The mining section of the Stock Exchange has been fairly busy this week. Mr. Rhodes' visit to Germany and his negotiations for the construction of the through railway from his possessions to Egypt have been used for making a boom in Rhodesians. Chartered have had a little spurt on the strength of a rumor that influential Germans were buying largely. The Transvaal gold mining companies' shares have been pretty strong, following President Kruger's recent speech about dynamite and other reforms, though Mr. Chamberlain's statement in the House of Commons saying that these reform speeches never amount to anything rather dashed the hopes of the bulls. The output of the Transvaal for February was considered good; their figures were slightly lower than the two previous months, but the shortness of the month accounted for all.

Several times in these letters I have mentioned a company called the Kootenay Exploration Company, Limited, which is the English name for an American named Mr. J. Grant Lyman. The object of the company is to sell the shares of American mining companies in England. Last year Mr. Lyman, through this agency, introduced the shares of the Yukon Trading, Mining and Exploration Company, and I mentioned the matter at the time. The latest move of this gentleman is to forsake Klondike and turn his hand to copper; so a prospectus is being sent out offering the shares of an American company called the Arizona Copper Syndicate, Limited (capital £100,000). The properties owned by this syndicate adjoin those of the Scottish company, the Arizona Copper Company at Clifton, but owing to disputed ownership, they have never yet been developed. We are also told that many members of the syndicate are interested in the Arizona Copper Company, though what the word "interested" really means it is difficult to say. The prospectus is in glowing language and makes much talk about adjoining properties. The claims to be acquired are the Outlet, Deep Down, Copper Centre, True Centre, Bon Ton, Great Centre, Figure Seven and Lucky Number. I naturally have some suspicion of such promotions, and should be glad if you or any of your readers could give us some information about the properties.

The Newhouse Tunnel Company, Limited, which was formed in London in 1893, is to be reconstructed under its original American name, the Argo Tunnel and Mining Company, Limited. The new company is to have a capital of £350,000, as compared with £150,000 in the old, so it is evident that operations are to be pushed on an extensive scale. The old shares were divided into two groups—preferred and vendors', the former having first claim to dividends, but under the reconstruction both classes of shares are to rank alike. This the original subscribers naturally consider a hardship. These original subscribers are now being asked to take up more shares in the new company, and no doubt a public appeal will be made shortly. Like all Mr. Newhouse's schemes, this one is being pushed by an extensive ramification privately among the leisured classes. Little or no information is given except by word of mouth, and it is difficult for a business man to find out the details he naturally requires.

Another interesting American flotation brought before the notice of Londoners is the Park Steel Company, which has been incorporated in New Jersey to take over the business of Park Brothers & Co., of Pittsburg. The capital of the company is $10,000,000, divided into equal amounts of 7% preferred and ordinary shares. The purchase price was the nominal capital of the company, and the vendors have elected to take the whole of the ordinary and $500,000 of the preferred, and offer the remainder of the preferred at par to the public. This sale of $4,500,000 preferred was effected through the Barings' houses in New York and London, and I am informed that the whole was taken up with the greatest readiness.

Paris, March 19.

(From Our Special Correspondent.)

The market has been rather quiet, with the exception of a little disturbance in the copper shares which soon passed over. Those shares, however, are weaker, and a break in the price of the metal seems to have arrived.

The metallurgical shares are not very strong, and a reaction of some extent seems to have begun, without especial reason, except that the prices have been really too high.

The foreign commerce of France for the two months ending February 28 is reported by the Ministry of Commerce as below:

	1898. Francs.	1899. Francs.
Imports	728,160,000	702,309,000
Exports	478,075,000	498,682,000
Excess, Imports.	250,085,000	203,627,000

The decrease in imports was 25,851,000 fr., or 3.6 per cent.; there was a large falling off in food and an increase in raw materials. The increase in exports was 20,607,000 fr., or 4.3 per cent.; this was almost entirely in manufactures. The excess of imports was less by 46,458,000 fr., or 18.6 per cent., than last year.

We have a canned beef question as well as you, though it is of a different nature. It came up in the Chamber of Deputies a few days ago during the discussion of the estimates for the army. The credit of 62,000,000 fr., to the War Department for preserved and salted meats for the Army revealed once more the hostility of French agriculturists towards the colonies when their production comes into competition with home-grown produce. A deputy demanded that the supply of canned meats should be reserved exclusively for French producers. Three years back protectionists succeeded in passing a law to prohibit the use of foreign preserved meat for the army, permitting, however, meat from the French colonies and protectorates. M. Etienne defended the colonies, and pointed out that the motive given for their exclusion, the unwholesome quality of the meat, was not the real one, but only a pretext to secure a monopoly for French producers. He demanded that the arrangement come to in 1896 should be respected, and the military authorities be permitted to employ preserved beef from New Caledonia, Madagascar. Protectionists replied that the canned meat from New Caledonia was Australian, or, at least, Australian beef was imported into New Caledonia to take the place of the Caledonian meat exported, and consequently Australia was favored to the prejudice of French breeders. Another deputy remarked that the agricultural populations in France were more deserving of interest than those in the colonies, and that it was never intended that French farmers, who paid the greater part of the taxes, should be sacrificed to a few speculators who went out to the colonies. The Minister of War said that until it was proved that colonial preserved meat was wholesome he should continue to obtain his supplies in France, with the exception of 600 tons imported from Madagascar, under a contract that had not expired.

The reference to speculators who went out to the colonies was perhaps an unfortunate admission since it touched a weak point in our colonial system. It was unhappily true; our colonies are made up of officials and speculators, and are conspicuous by the absence of the real settler and cultivator. Hence their slow growth and the heavy expenses attending their administration. The conditions do not and cannot improve under our present system.

We organize colonies, but we do not colonize. It may interest your manufacturers of electric machinery to know that the Government is inserting in all new concessions for electric railroads a clause requiring that the motors and rolling stock must be of French manufacture. This clause is aimed especially at Belgium and Switzerland, which have been the chief foreign manufacturers in our market. The Belgian chambers of commerce are making protests, it shuts out also your electrical workers, to whom we have come to look for the latest improvements in electrical work.

You know, probably, that in France the manufacture of matches is a government monopoly. The return of the bureau for 1898 shows that there were 33,249,581,020 matches made at a total cost of 7,484,988 fr.; an average of 22.4 centimes per 1,000. The receipts were 29,410,233 fr., an average of 88.2 centimes per 1,000. The profit to the State was therefore 21,925,245 fr. We would not mind so much the high price of the matches if the State would give us a better quality. As it is they are execrable.

The death of M. Eugene Secretan a few days ago removes a man who for 30 years has been a prominent figure in the industrial world of France, and whose name was heard all over the world at the time of the great copper corner 10 years ago. After the collapse which involved the failure of the Societe des Metaux and the Comptoir d'Escompte, he retired from public view for a time. Lately he has been engaged in improving the Elmore process for depositing copper, and founded the Societe de l'Electro-Metallurgie for treating copper and other metals by that process. His death caused a temporary drop in copper shares, as it was reported that he had a big speculative account open in that metal. This did not, however, prove correct; but shares in his own company went back from 900f to 750f, and have since only partially recovered.

France is somewhat interested in your troubles in the Philippines. The Spanish sympathies are very strong yet, and one hears predictions of your want of success in subduing the revolt which Spain stirred up. There are a few, however, who understand the matter, and believe your late vigorous action will soon settle the matter.

This is the view of common sense and knowledge of your people; but both are scarce just now, I fear. Azote.

LATE NEWS.

MONTANA.

Granite County.

(From Our Special Correspondent.)

Nancy Hanks.—A recent strike on the 200-ft. level is said to exceed in richness any ore yet shipped.

Shamrock.—A first-class plant of machinery has been put in by Messrs. McDermott, Patton & Lannen. The shaft will be continued to the 500-ft. level before any crosscutting is started. The ore is copper and gold.

STOCK QUOTATIONS.

NEW YORK.

NAME OF COMPANY.	Location.	Par val.	Mar. 25. H.	Mar. 25. L.	Mar. 27. H.	Mar. 27. L.	Mar. 28. H.	Mar. 28. L.	Mar. 29. H.	Mar. 29. L.	Mar. 30. H.	Mar. 30. L.	Mar. 31. H.	Mar. 31. L.	Sales.
Adams Con.	Colo.	$10	2		20		.20								
Aiamo	"	1	.07		.07⅞		.07	06¾	.06¾						
Alice	Mont.	25	1.00				.80								400
Anaconda, c	"	25	43 63	43 38	44 50	43.75	44.75	44.13	44.25	44 00	44 5				4,630
Anaconda Gold	Colo.	5	53		.56		.56¾	.56	.56¾	.56	.57	.56			1,500
AnchoriaLel	"	1	.95		.97½		.97		.97¼	.95	.97½				
Argentum-Jun.	"	2	.25				.26								500
Belcher	Nev.	3	.82		.40	.32	.55		.54		.53				800
Best & Belcher	"	3	.75		.74		.60		6						400
Breece	Colo.	25	1 65	1.40	1 65		1 65		1 60						
Brunswick	Cal.	1	.29		.30		.30		.29						147,00
Burt Gold	Colo.	1	.10	.09¾	.10	.09¾	.09¾		.10	.09¾	.10¼	.09¾			
Choliar	Nev.	3	.46		.35				.35						200
Chrysolite	Colo.	50	12		.12		.12								
omst'k T.,b'ds	Nev.	100					.05								500
do. stock	"	100	.06		.05		.06								600
do. scrip	"	100													
Con. Cal. & Va.	"	2½	2 40		2 4	2 40	2.10		2 30						400
Cr & Cr. Creek	Colo.	1	.10	.08	.08						.18				2,500
Crescent	"	10	3												100
Cripple Cr. Con.	"	1	.09¾		.09		.10		.09¾		.09¾				4,900
Crown Point	Nev.	3	.25		.25										
Deadw'd Terra	S.Dak	25	.65	.55	.75										200
Elkton	Colo.	1	.88¾		.90	.87½	.80		.93¾	.85	.96				700
El Paso	"	1													
Enterprise	"	1	.30		.30		.35		.30						
Fanny R	"	1													
Findley	"	1													
Garf. Con.	"	1	.11¾		.12¾		.12		.12¾		.12				3,800
Gilp. & Lincoln	"	1	.45¼	.44¾	.4 ¾	.45	.45	.44¾	.45¼	.45	.45				7,800
Gold Coin C Ck	"	1	1 95		1 95	1.9	1 8		1 90		1 90				500
Gold Coin Gilp.	"	5	.75				.75		.75						
Golden Fleece	"	1	.34		.35		.36	.33¾	.35¾		.36				1,300
Good Samar'an	"	1	.08	.06	.07¾	.07	.07	.06¾	.06¾	.06¾	.06				147,70
Gould & Curry	Nev.	3	40		.41		.5		.40		.40				400
Gregory Gold	Colo.	1	10¾	.09¾	.10	.09¾	.09¾	.09¾	.10	.09¾	.10	.09¾			151,00
Hale&Norcross	Nev.	3	.35		.35		.35		.35						
High Five	Colo.	1	.18¾	.17¾	.19	.17¾	.19	.18	.20	.18¾	.21	.19			135,50
Homestake	S.Dak	100			63.5										70
Horn Silver	Utah.	25	1 50	1.30	1 3		1 35	1.25	1 35		1.45				250
Iron Silver	Colo	20	.65		.6		.70								100
Isabella	"	1	.87	.8	.8		.85		.87½		.90				2,00
Jefferson	"	1	.05¾		.06		.06		.08		.06				3,000
Jennie Blanche	"	1	.40	.39¾	.4	.40	4 ¾	.40¼	.40¾	.40	.40¾	.40			10,200
Justine	"	1	.02		.02¼		.02				.02¾				1,000
King & Pemb.	Ont.	10	.16		.16		.15		.15						
Leadville Con.	Colo.	10	.12	.11	.12	.11	.12	.11	.10						
Little Chief	"	50	2	.18	.18	.17	.18	.16			2				100
Mexican	Nev.	3	.70		.70		.75		.28	.27	.27	.26¾			1,600
Mollie Gibson	Colo.	5	.26¾		.27		.27								
Moon Anchor	"	1													
Mt. Rosa	"	1	.26	.24	.25¾		25¾		.26¾	.24	.26¾	.26			2,400
Occidental	Nev.		.30												
Ontario	Utah.	100	5 00				5.00								
Ophir	Nev.	3	.95		.95		1 25				.65				1,100
Pharmacist	Colo	1	.06				.04								
Phoenix	Aris.	1	.08		.08		.09		.08						1,000
Plymouth Con.	Cal.	10	10		10		1								
Portland	Colo.	1	1 72		1.75		1 64		1 72		1 75				4,600
Potosi	Nev.	3	.30		.38	.37	.40	.39							850
Quicksilver	Cal.	100	3 00	2.0	3.00	2.00					3.50				10,200
do. pref	"	100					9 50								100
Rocky Mtn	Colo	1							.02¾						
San Juan Star	"	1	34¾		.33¾		33¾		.33¾		.32½				500
Savage	Nev.	2¾	.30		.30		.3		.34						
Sierra Nevada	"	3	1 20	1.00	1.30		1.25		1 00		1 30				200
Small Hopes	Colo.	20	1 25		1.30		1 30								
Standard Con.	Cal.	100	2 50		2 50		2 50		2 6						800
Syndicate	"	100													
Union	Colo.	1					.18								
Union Con	Nev.	2½	.55		.55				.60		.7				200
Union Gold	Colo	1	.22		.21¾		.21¾				.22				500
Utah Con	"	3	.18		.18										
Vindicator	Colo	1													
Waldorf	"	1	.01						.01						
Work	"	1	.19		.87½		.19		.9¼		.19¼				600
Yellow Jacket	Nev.	3	.30		.40		.4		.35						1,100

COAL AND INDUSTRIAL STOCKS.

Am. Sm. & Ref.		$100					44¾	44	43	42¾	43⅝	43			
" " " pf		100					86¾	86¼	86	85	85¼	86			
" " " "bs		100	115		1 15¼	15	115⅛	115	115⅛	15	115⅜				
Am.S.&W Co n		100	64¼	63¾	66¾	65	66¼	64¼	64¾	6 ¼	64¼	62¼			108 75
" " pf'r n		100	1 3⅛	1 3⅛	$101	1 4⅞	102¼	101¼	101¼	100¼	100¼	100			17,345
Central of N. J	N. J.	100	119⅛	119	119⅝	118¾	118¾	117¼	1 9	117⅛	119	11			10,725
Col. Fuel & I.	Colo.	100	36¼	34	37¾	36	37¼	36	37	35¾	36	34½			14,248
" " pf	"	100	1 1	97	1 02	98	99		10						500
Col. & H.C.&I.	Ohio.	100	12¼	12	12¾	12	12		10¼		10¼				400
Del. & Hud	N. Y.	100	117	1 6¼	117	116¼	117	116¼	116	116	116	1 5¼			4 821
Federal Steel		100	55	53¾	61¾	56	63¾	61¾	62¾	59¾	67¼	58¾			544.19
" " pf		100	88¾	87¾	89¾	88¼	89¼	89¼	90¾	88½	89¼	88			38 617
National Lead	N Y.	100	34¾		35¾	34¾	36¼	35¼	36¼	34¾	35	34¼			5 524
" " pf	Md.	100	113¾		114¾				113						370
National Sa't		10	39	37	39	37	38	33	38	35	38	35			
" " pf		100	74	70	74	70	74		72		72				
N. Y., Ont. & W.	N. Y.	100	28¾	28¼	28¾	28	28¾	28¼	28¾	27¼	27¾	27			27,017
Phila. & Read	Pa.	100	24¾	24⅜	25	24⅝	24⅝	24¼	24¼	24	24¼	23¼			6,240
" " 1st pf.	"	100	67⅜	67¼	68	67⅜	67¼	67	67	66	65¾	64¾			42,960
Standard Oil		100	474	472			477	475	475	472	471	470			
Tenn.C.,I.&R.R.	Ala.	100	53	52¾	54¼	53	54¾	54	54¼	52¾	54	51¾			59,095
" " pf	"	100	140				145								200

‡ Ex-dividend

PHILADELPHIA, PA.

NAME OF COMPANY	L'cation.	Par Val.	Mar. 24. H.	Mar. 24. L.	Mar. 25. H.	Mar. 25. L.	Mar. 27. H.	Mar. 27. L.	Mar. 28. H.	Mar. 28. L.	Mar 29. H	Mar 29. L	Mar 30. H.	Mar 30. L.	Sales
Bethlehem I	Pa.	$50	139¼	136	142¼	138	146	42¾	153	148	155	153			5,128
C moria iron	"	50	46 53						46 50	46 38					316
Cambria Steel	"	50	24 25	23 75	24 .25	24.13	24 50	24 13	24 5	24 13	24 .38	24 00	24.0	24.50	26,243
Choctaw, pref.	I. T.	50	48.0	47 5	48.00		48.50	48.00	48 50		48 75	48 0			1,454
Choc. Tr. ctf.	"	50	38.13	38	38 .6		38 50		37 0		37 .25	37 0	32.00	36.5	3,886
Lehigh Val	Pa.	50	28 88	28 .5	29 .25	28.75	29 38	28.7	28.50		28 5	27 63	27.8	27.5	7,489
Penna. R. R	"	50	66 13	66.00	66 5	66 13	67 .25	66 63	67 0	66 13	67 25	67 63	67.0		6,222
Penna. Steel.	"	100	55 .25	54.50	54 5		7 0	55 0	57 0	56 0	56 75	56 25			1 910
" "pr'f	"	100	76 0				81.00		81 0	80 0	80 0	79 88			279
United Gas I	"	50	15¼	15¼	1535	15¼	15	54	54¼	154	1398	158	*160	157¼	9,596
Welsb. of Can	Can	100	3 0		3.63	3.00	4 0	3 63	3 62	3 63	3 7	3.50	3.63	3.50	7,643
Welsb. Coml	"	100	10 00		11 50		14.00								590
" pf	"	100			64 75	59.50	64.7	3 01	68.00	64.0	65 .0				940
Welsb Light	"	60	39 5		43 .5	39.50	44.5	41.75	46 .25	45 .0	46 0	44.88	41 75	43 00	15,633

Total shares sold, 86,7 8. *Ex-dividend

BALTIMORE, MD.‡

March 30.

NAME OF COMPANY.	Location.	Par value	Bid.	Ask	NAME OF COMPANY.	Location.	Par value	Bid.	Ask
Atlantic Coal	Md.	$10			Howard C.&C	Md.	$5		
Big Vein Coal	"	10			Newburg Orrel C.	"	25		
Consolidation Coal	"	100	56		Silver Valley	N. C.	5		
George's Creek Coal	"	100	116	120					

ST. LOUIS, MO.

March 29.

NAME OF COMPANY.	Location.	Par value.	Latest Bid.	Latest Ask.	Sales.	NAME OF COMPANY.	Location.	Par value	Latest Bid.	Latest Ask	Sales.
Am. Gold	Colo.	$10				Granite B	Mont.	$10	$. 6	$1 75	600
Am. Nettie	Colo.	10	1.35	$1 40		Hope St.	Mont.	10			
Central L	Mo.	100	9. 5			St. Joe L	Mo.	10	14 50	15 00	
Doe Run L.	Mo.	100				Sm. Hopes	Colo	20	1.27½		

BOSTON; MASS.†

NAME OF COMPANY.	Par val.	No. of shares.	Mar 24 H.	Mar 24 L.	Mar 25. H.	Mar 25. L.	Mar. 27. H.	Mar. 27. L.	Mar. 28. H.	Mar. 28. L.	Mar. 29. H.	Mar. 29. L.	Mar. 30. H.	Mar. 30. L.	Sales.
Aetna, cons. g.	$5	100,000	4 00						4 00						
Adven'u'e,Cons	25	100,000	3 50	13.00	3 50		4.50	14 00	14.50	14 00	14 75	14 50	14 50		200
Allouez, c	25	90,000	9.50	8 .0	11 0	10.1	11 25	10.25	10.00	9.00	10 25	10 .0	10.00		1,285
§ Arcadian R'ts			16 0	14 .25	20.00	18.00									3 530
Arcadian, c	25	100,000	63 00	54 00	70 00	65 00	71.00	68 5	69. 0	68 00	70 00	65.00	68 00	67 00	4,353
Arnold, c	25	60,000	10 00		10.50	10.00	11 00	10 25	11.75	10.00	10.50		11 5	11.25	890
Ashbed, c	25	40,000							1 75						.0
Atlantic, c	25	40,000	31 00		32 63		34 00	32 75	34.0				34 25		4
Baltic, c	25	100,000	27 0		28.00		31.25	28 00	3 .00						
Bonanza, g	10	300,000	2 50	1.88	2.63	2.25	2.25		2.25	1.88	9.75	31 00	3 00	00	2,321
Bost. t. C. g.	2	200,000											2 25	2 00	25,470
Bos.&Mon,Tr.R	25	150,000	360	346	365	360	369	363	365		25				1,354
Butte & Bost., c	10	200,000	89.50	85 00	90 00	89.00	89 63	89.00	89 75	362¼	364		360		839
Cal. & Hecla, c	10	100,000	705		745	720	775	750	770	87 00	89.50		88 00	83 00	3,436
Catalpa, g	10	300,000								760	774	765	770		562
Centennial, c.	25	90,000	45 50	41 50	46 25	45.50	49.75	45 50	48.50	47.00	48 00	46 50	47 50	46 .3	1,964
Cochiti, g	10	150,000	13.63	12.75	14 50	13 50	15.13	14.38	15 25	14 38	15.25	14.5	14 88	14 2	3,646
Crescent, g.	10	300,000								30	.25				300
Dominion Coal	100	150,000	47 50	45 75	48.00	47.50	49.00	48.00	54 00	49 00	56 5	54.00	58.50	54 .0	60,493
do. pref	100	30,000	132	121	132		121				121				264
Federal Steel	100	464,813	53.5	52 88	55 00	53 63	61.50	57.00	63.63	61 75	63 00	60 13	67.25	58.88	92,110
do. pref	100	527,676	88 00	87 50	88.50	87.88	91.00	88.50	94 00	88.88	91 38	88 00	90 00	88 00	2 132
Franklin, c	25	85,000	25.00	24 50	26 00	25.00	27.00	26. 0	28 75	26.25	27.00	26.00	26.50	26.0	3,964
Gold Coin	5	20,000													
Humboldt, c	25	40,000					4 00	2.75					2.75	2 50	89
I. Royal Con. c.	25	100,000	67.00	65.00	67.0	65 00	67.50	63.0	67 0	66.50	67.00	66.5	66 00		4,720
Merced g	15	100,000					9.50	9 00	10. 0	9.0	0.50	10.0			1,130
Mohawk, c	25	100,000	29.00	28 00	29.00		30.50		3 .00	30.00	30 50		3 .00	30 50	5,920
Napa, g	7	100,000													
New Idria, q.	5	100,000	11 .0				11 00								100
N.A.Gold Dre'g	10	100,000	34. 0		38. 0	35 00	37.50	37 00			39.00	38 0	38.25		4,950
Old Colony, c	25	100,000	17 25	15 50	18. 0	17.50	18.50	17 25							4,780
Old Dominion,c	25	150,000	45.50	42 75	46.38	45 00	47.00	46.25	46 75		15.50	46.13	45.50	45.50	45 00	8,949
Osceola, c	25	93,000	91. 0	87.50	91 00	89.75	94.00	91 00	94 50		93.00	91 50	93 .00	91 50	5, 7
Parrot, s c	10	230,000	45 2	44.50	46.50	45 50	46 50	45 50	45 .50		45.25	48 5	47.50	49 0	44,700
Pioneer, g	10	100,000	3 75	3.50	3.88	3 00	4 00	3.50	3.75		3.50	3 50		3 50	3,925
Quincy, c	25	100,000	55		16)	1 5	165¾	160	170				6		598
Rhode Island	25	100,000	12.75	2 50	13 00	12.50	14 00	13 00	14.25		13.5	14.00	13.50	14. 0	13 5
Santa Fe, g. & c	10	250,000	16 38	15 25	17.0	16.00	17.2	16 00	17 25		16.63	17 50	16.50	16 .2	25 318
San. Ysabel, g.	5	130,000	1 .25	2 00	14 00	13 00	17.50	15.50	16.00		1 .50	16 0	5.0	16 .00	15 50
Tamarack, c	25	60,000	25	222	231	228	247	245	250		245	249	245	249	11,660
Tecumseh, c	25	40,000			8 00		8.50		9.00		8.50		8.00		5 4
U C L.&Mg. Co	25	80,000	8.00	7.50	8.50	8 00	9 00	8.50	9 00		8.50	8.00		8. 0	425
Utah Cons g &c	5	3 0,00	42 50	39 63	41 00	40.00	43.00	42.00	43.00		42. 0	43 00	41.00	42.5	41. 5
Victor, g.	5	230,000	4 00						4 50						5 9 0
Washington	25	40,000			3.00	2 75									10
White Knob	10	58,000	17 .0	16 00	20 00	18.00	21.00	20.00	21.00	21.50	21 50	19.0			110
Winona, c	25	100,000	16 25	16 0	17.00	16 5	18.00	17 50	18.0		17 00		18 00	17 .0	5,985
Wolverine, c	25	60,000	44 00	43.50	45 00	44.00	46 00	45.50	46.25	45 .04	.00	45 75	45 .0	44 .0	2,165

† Official quotations Boston Stock Exchange. §Ex-Rights. Total sales, 86,786

CLEVELAND, O.

March 29

NAME OF Co.	Iron Range	Par Val.	Mar 29 Bid.	Mar 29 Ask.	NAME OF Co.	Iron Range.	Par Val	Mar 29. Bid	Mar 29. Ask.
Aurora	Gogebic	$25	$13	$4	Jackson	Marquette	$25		
Champion	"	25	15	25	Lake Superior	"	25	$4	$45
Chandler	Vermillion	25	59	60	Minnesota	Verm. & Mes	100	91	92
Cleve'd-Cliffs	Marquette	100	85	90	Pitts & L'keAng	Marquette	25	15	125
Fed. Steel Co.		100	29¾	30	Republic	"	25	15¾	16

BUTTE, MONT.*

March 17.

NAME.	Location.	Par Val	Quotations. Bid.	Quotations. Ask.	Sales.	NAME.	Location.	Par Val	Quot tions. Bid.	Quot tions. ask	Sales.
Alice g	Mont.	$25	$0 75	$1.00		Lone Pine C , g	Wash	$1		$ 3	
Am. Dev. & M	"	5	.02	.25		Mont. Ore P	Mont.	25		150.00	
Anaconda g	"	2		47.00		Mo n. Glory g	Wash	1 0		19	
Hope (Basin)	"			1.00		Mountai L	"	1.10		84	
Black Tail, g.	Wash			13		New South Cr's	Mont	$1.00			
Con. Gran.-Bim.	Mont.		1.30	1 50		Number Six, g.	Wash	0.10		.16	
Con. Tiger-Po r.	Idaho	1		.40		Rebate, g.	"	1		20	
Gold Mn. (Ruby)	Mont.			.30		Republ c G	"	1		3.50	
Iron Mn , g			.05	.15		San Poil, g	"	1		74	
Jim Blaine, g	Wash			.03		Tom Tu mb, g	"	1		26	

* Specially reported by the Hewett-Sibley Company.

COLORADO SPRINGS COLO.‡

NAME OF COMPANY.	Par val	Mar. 20. H.	Mar. 20. L.	Mar. 21. H.	Mar. 21. L.	Mar. 22. H.	Mar. 22. L.	Mar 23 H.	Mar 23 L	Mar 24 H.	Mar 24 L.	Mar 25. H.	Mar 25. L.	Sales
Alamo	$1	.07		07¼	07¾			07¾		07¾	07¼	07¾	07¼	74 100
Anaconda	1	59	.55	58	57½	.56		55¾				55		9,000
Arg'ntum	1	29¼	.28							30				1,000
C. C. Con	1	09¾	09¼	09	09¾	.09¾		.09¼		09	.09			13,100
Croesus	1		.06	005¾										8,000
Currency	1	02¾												1,000
Dante	1	13		13¼	13¾							13¾	.11¾	12,500
Des Moines	1													
ElktonCon	1	96¾	94	9	90	91	88¾			.86	.87	.88¼	88	15,550
El Paso G.	1	25¾	.26¾	.26	24	.23	.22	.22¾	.22¾	21¾	.21			39 93
Fanny R.	1													
Favorite	1	04¾		04¾	.04	04¼				.04¼				6,000
Findley	1			15	.14¼	15¾	.14¾	.15¾	.15¾	14¾	.14			43,700
Golden Fl.	1													
Hayden G	1	01¾	.01¾	.01¾	01¾	.01¾	.01¾	.01¾						152,000
Ing. Con	1	.08¾						07¾				.07¾		4,000
Isabella	1	81¼	79¼	81¼	.80	80¾	.80	80¼	80¾	81¼	80¾	8 ¾	.80¼	50 515
Jack Pot	1	.38¼	.37	38¼	37	37¾	37	36¾	3 ¾	35	34¾	.35	34¾	50,9 0
Lexington	1	.02¾		03¾	.02¾	02¾	02¾							4,000
Ma'net R.	1							03¾	.02¾			03¾		20,0 0
Marion	1													
Matos.	1	38¾	38¼	.38	37¼	.37	.36¾	.35¾	35	34¾	.32¼	.33¾	.33¼	37,900
Mobile	1					04		.03¾		03¾				3,000
Mollie Gib	1					26						26		1,0 0
Moon-A'c'r	1	1 01	1.02	1 01	1 03							1.08		2,100
Mt. Rosa	1													
New Haven	1									.02¼				1,0 0
Oriole	1	02				02	01¾	02		02				24,700
Pilgrim C	1				0 7¾							.04¾		4 000
Pinnacle	1	11¾		11¾	11¾	11¾	11¾	11¾	11¾	11¾		11¾	11¾	68,200
Portland	1	1 74¾	1.73¾	1 74	1 7 ¾	74	1.72	1 72	1.71¾	1 71	1.70	1 70		25,7 0
Prince Alb.	1	04¾			04¾					.04¾		04¾		12, 0
Princess	1									04				1,000
Specimen	1	09¾	.09¾	09		09¼	.09	08¾				.08¾		1,0 0
Trachyte	1	04¾		04¾		04¾								17 000
Union	1	30¾	2 ¾	.21¾	.21	21	20¾	22¼	.21¼	.22¼	.21¼	22	21¾	78 80
Uncle Sam	1				.13¾	03¾	03¼							6,000
Work	1	22	21	.21¾	19¼	.20		19¾	.19¾	.19¾	19	18¼	.18¾	166,825

‡ Official quotations Colo. Springs Mining Stock Exchange. Sales: Listed stocks, 974,181 shares; unlisted, 1,331,698 shares; total, 2,3 8 779 shares; cash value, $319,834.50.

By Telegraph.

NAME OF COMPANY	Par Val	No. of Shares.	Mar. 27. B	Mar. 27. A	Mar. 28. B.	Mar. 28. A	Mar. 29. B	Mar. 29. A	Mar. 30 B.	Mar. 30 A
Alamo	$1	125, 00	07¼	07¾	07¾	.07¾	07⅝	07¾	07¾	.08
Anchoria-Leland	1	60 .0 0	9	1.90	95	1 0)	.93	1.00	93¾	.98
Elkton Con	1	1,250,000	8 5¾	89¾	90	1 9 ¾	.93¾	.93¾	93¾	98
Gold Coin, Vict	1	1,000,000	1 90	2 00	1.90	2 0)	1 90	1 95	1.90	1 95
Golden Fleece	1	600,000	.32	36	32	36	32	.36	.34	.36
Isabella	1	2,250,000	.80¾	.81	84¾	.84¾	.87¼	87¾	.88¼	88¼
Moon-Anchor	1	600,000	1.06	1 10	1 09	1 12	1.12	1.15	1.14	1.19
Mt. Rosa	1	1,000,000	.24¼	.26¾	.21¼	21¾	.25	.29	.25	.29
Portland	1	3,000,000	1.70	1.70¾	1 70¾	1.73	1.74	1 74¾	1.74¼	1 75¼

STOCK QUOTATIONS.

DENVER, COLO.‡

NAME OF COMPANY.	Par val.	Mar. 20. B.	Mar. 20. A.	Mar. 21. B	Mar. 21. A	Mar. 22. B.	Mar. 22. A.	Mar. 23. B	Mar. 23. A.	Mar. 24. B.	Mar. 24. A.	Mar. 25 B.	Mar. 25 A.	Sales.
Mines:														
Anac'da G.	$5	.59¾	.60¾	.56¾	.57	.53	.56	54	.54¾	50	54¼	.53¼	.52½	7,100
Arg. J.	1	29	31	.29½	....	29	....	....	....	28	.30	28	....	1,000
CripppleC.C.	1	09¾	10	.08¾	.09¾	.08¾	.09½	.08½	.09¾	.08¾	....	....	....	2,750
Elkton Con.	1	90	1 00	....	....	90	....	....	....	....	....	....	....	
Findley	1	.3½	....	....	....	....	....	....	....	....	....	....	....	
Garf. Con.	1	12	13	12	13	12½	.13	12½	.13	12½	.13	.12½	.13	5,750
Gilpin&C.C.	1	.42	.44	.42	.44	42½	....	42	....	42½	.43	.42	....	16,100
Gold Coin.	1	1 90	....	....	....	....	....	....	....	....	....	....	....	
Gold Fleece	1	.30	.36	.30	....	....	....	.29	.36	.30	....	....	....	
Gold Eagle.	1	....	.48	....	....	.28	....	....	....	....	....	....	....	
Indepnd'nc	1	63¼	.64	62½	.63½	61¾	.62½	62	63	62	63	.63	64	
Iron Clad.	1	02¾	.03	02¾	.03	02¾	03	02¾	.03	02¾	03¼	.03¼	.03½	4,000
Isabella.	1	82¼	82½	.82	.83	81½	.82	81	....	80¾	82	81	83	3,400
Jack Pot	1	37¼	....	36	.37½	36½	....	35½	.37	.33½	.35	....	....	1,000
Jefferson.	1	04	.07½	....	....	05¾	07	....	....	....	....	....	....	1,000
Keystone	1	.09¾	....	....	....	....	....	....	....	.03¾	09¼	.09	.09½	8,000
LosAngeles	1	11	.12	.11¾	.12	.10¾	.11¼	.10¾	.11¼	.10¾	.11¼	10¾	11¼	2,000
Moon-Anch.	1	1 01	1.02	1.03	1 05	....	....	....	....	....	....	....	....	1,800
NewZealnd	1	....	.24	23	.24½	20	.24	....	....	....	....	....	....	1,475
Ophir	5	.25	.28	.25	27	.25	27	....	....	.25	28	26	35	....
Pharmacist	1	.04¾	....	.04¾	.06	.04¾	05	.04¾	.05	.04¾	....	.04¾	.05	....
Portland.	1	1.74	1 80	1.70	1.75	1.73	1 75	....	....	1 69	1.72	....	....	200
Pr. Albert.	1	.04¾	.04¾	....	....	....	....	....	....	.04	....	....	....	
Specimen.	1	.08	.10	....	....	08	10	....	....	.08	....	.08¾	....	500
Union Gold	1	.20	.20¾	.2 ⅛	.21½	.20¾	.21	.21¾	.23¼	.21¾	.22½	.21	.21¾	3,500
Va. M.	1	....	....	.03½	.04	.03½	.04	....	.03¼	.03¾	.03¾	....	....	
Work	1	.21	.22	.19	.20¾	.19¼	.20¾	.19	.20	.18	19	.18	.18¾	4,500
Prosp'cts.														
Gold Sov'n	1	.04½	.05	.04¾	.05	.04¾	.04¾	.04¾	05	.04½	.04¾	.04¾	.05¼	11,000
Old Gold.	1	.01¾	.01¾	.01¾	.01¾	.0 3¾	.0 3½	.01¾	.01¾	.0 3¾	.0 3¾	.01¾	.01¾	7,000
Reno.	1	.02¾	.03¾	.02¾	.03	.02¾	.02¾	.02¾	.03	.02¼	....	.02¾	.02¾	
Miscell.‡														
Acacia.	1	.09¾	.10½	.09	.09½	.09¾	.09¾	.10¼	.11	.10¾	.12	....	....	11,000
Alamo.	1	.06¾	.07¾	.07¾	.08	.07¼	.07¾	.07¾	.07¾	.07¾	.07¾	.06¼	....	18,000
Buckhorn	1	.03¾	.03¾	.03¾	.04	.03¾	.03	.03¾	.03¾	.03¾	.03¾	.03¾	03	10,000
C C & M.	1	....	....	.05¾	.06	.05¾	.05¾	....	.06¼	.05¾	.05¾	.05¾	.05¾	51,000
Franklin.	1	....	....	....	....	.01	.01¾	....	....	.01¾	.01¾	.01¾	.01¾	
Go dstone	1	.01	.01¾	.01¾	....	.01¼	.01¾	....	....	.01¾	....	.01	.01¾	8,000
Mobile.	1	.03¾	.04¾	.04	.04¾	.03¾	.04	.03¾	....	.03¾	.04¾	....	....	8,000
MountainB.	1	.05¾	.06¾	.0 3¾	.05¾	.05¾	.05¾	.05¼	.05	.05¾	.05¾	.03¾	.0 3¾	160,000
Omega.	1	.02¾	.03	.02¾	.03¾	.02½	.02¾	.04¾	.02¾	.02¾	.0 3¾	.02¾	.02¾	10,000
Pinnacle.	1	.11¾	....	.11¾	....	11	....	.11¾	12	.11	.13	11	.11¾	3,000
Trachyte.	1	.04¾	05	.04¾	.04¾	.04¾	....	.04¾	.05	.04	.05	....	....	8 000

‡Official Quotations Denver Stock Exchange. Sales: Mines, 61,075 shares; Prospects, including those mentioned, 93,500 shares; Miscellaneous, 189,000 shares; total, 347,575 shares.

SAN FRANCISCO, CAL.

NAME OF COMPANY.	Location.	Par. value.	Mar. 24.	Mar. 25.	Mar. 27.	Mar 28.	Mar 29.	Mar 30.
Alpha Con.	Nev.	1.00	.10	14	.....	.19	.19	.19
Alta.	"	2.00	.14	.09	.....	14	.....	.....
Andes.	"	3 00	.21	.22	.....	.21	.19	.19
Belcher.	"	3 00	.45	.45	.....	.49	.48	.48
Best & Belcher.	"	3 00	.70	.69	.....	66	.61	60
Bullion.	"	1 00	.07	.06	.....	06	.05	.05
Caledonia	"	3.00	.40	.48	.....	.....	.42	.42
Challenge Con.	"	3.00	.48	.43	.....	.42	.40	.40
Choliar.	"	3.00	.42	.43	.....	.41	.38	.38
Confidence.	"	3.00	.....	1 16	.....	.....	1 00	1 00
Con. California & Virginia.	"	2 50	2.35	2 33	.....	2 20	2.15	2 15
Cons. Imperial.	"	1 00	.02	.02	.....	.02	.02	.02
Cons. New York.	"	1.00	.....	.02	.....	.02	.02	.02
Crown Point	"	3 00	.35	.33	.....	.32	31	31
Exchequer.	"	1.00	.....	.....	.....	03	03	03
Gould & Curry.	"	3.00	.50	.51	.....	.46	44	.44
Hale & Norcross.	"	3 00	.37	.38	.....	.39	.37	.37
Julia Con.	"	1.00	.....	.....	.....	.....	.....	.....
Justice.	"	2.00	.24	.24	.....	.25	.23	.23
Kentuck Con.	"	1.00	.14	.14	.....	.....	.....	.....
Mexican.	"	3.00	.84	83	.....	.77	.75	.75
Occidental Con.	"	3.00	.30	20	.....	30	30	30
Ophir.	"	3 00	1.30	1.20	.....	1 20	1.15	1 15
Overman.	"	2.00	.19	.21	.....	.20	.19	.19
Potosi.	"	3.00	.35	.34	.....	.35	.33	.33
Savage	"	2 50	.34	.34	.....	.35	.33	.33
Seg. Belcher & M.	"	2.00	.07	.07	.....	.07	04	04
Sierra Nevada.	"	3.00	1.35	1 35	.....	1 30	1 20	1 20
Silver Hill.	"	1 00	.....	.05	.....	04	.....	.....
Standard.	Cal.	10.00	2 70	2.75	.....	2.75	2 50	2 50
Union Con.	Nev.	2 50	.71	.70	.....	.65	.64	.64
Utah Con.	"	1 00	.23	.23	.....	.22	.19	.19
Yellow Jacket.	"	3.00	.38	.35	.....	32	.29	.29

Official telegraphic quotations of San Francisco Stock Exchange

ROSSLAND, BRITISH COLUMBIA.*

March 23.

NAME OF COMPANY.	No. of shares.	Par value	Selling price.	NAME OF COMPANY.	No. of shares.	Par value	Selling price.
Brandon & Gold. Cr.	1,500,000	$1	$0 3)	Lerwick	500,000	$1	.....
Brit. Amer. Corp'at'n	7,500,000	5	4 25	Lily May	1,000,000	1	.....
Brit Col. Corpor. tion	1,500,000	2½	.....	Lon.&Van.Fin.Dev.Co	500,000	5	.....
Canadian Gold Fields	10,000,000	0 10	.10	London B. C. Gold F.	250,000	5	$5 00
Cariboo.	1,500,000	1	1 65	Monte Cristo	1,000,000	1	.....
Commander.	500,000	1	.....	New Gold Fields, B.C.	250,000	1	5.00
Deer Park.	1,000,000	1	.....	Novelty	1,000,000	1	05
Dundee.	1,000,000	1	.40	Queen Bess Prop.	120,000	5	3 75
Evening Star.	1,000,000	1	.....	Rambler Con.	1,000,000	1	35
Fern	200,000	¼	.61	Reco.	1,300,000	1	1.60
Gold Fields of B.C.	3,000,000	3½	5.00	Red Mt. View	1,000,000	1	.....
Hall Mines.	250,000	5	3 00	St. Elmo.	1,000,000	1	.....
Hattie Brown.	1,000,000	1	.....	St. Paul.	1,000,000	1	.....
Homestake.	1,000,000	1	.05	Sarah Lee.	1,000,000	1	.25
Iron Colt.	1,000,000	1	.....	Silver Queen.	1,500,000	1	.15
Iron Horse.	1,000,000	1	.....	Slocan Star.	500,000	1	2 40
Iron Mask.	500,000	1	.90	Vic Tr. MinesDev. Co.	25,000	5	.....
Josie	700,000	1	.....	Virginia	500,000	1	.....
Jumbo.	500,000	1	.....	War Eagle Con.	2,000,000	1	3 50
Kenneth.	1,000,000	1	.....	Waverly Mines.	100,000	5	3.00
Keystone.	1,500,000	1	.....	White Bear.	2,000,000	1	.08
KootenayGold Fields	20,000	5	.....	Wild Horse.	400 000	1	.....

* From Our Special Correspondent.

VALPARAISO, CHILE.*

Feb. 11.

NAME OF COMPANY.	Location.	Capital paid.	Sh. Val. paid up.	Last Div'nd. Amt.	Last Div'nd. Date.	Prices. Bid.	Prices. Asked.	Prices. Last sal
Arturo Prat, silver.	Chile.	$3,300,000	$100	4 p. c.	1897	16½	17	17
Caracoles, silver	"	315,000	100	10 "	1894	.....	.....	.....
Huantajaya (mine) silver	"	1,000,000	100	13 "	1894	.....	.....	.....
Huanchaca, silver.	Bolivia,	8,000,000	25	4 "	1895	30	32	30
Oruro, silver.	Chile.	800,000	200	.....	.....	290	300	300
Todos Santos, silver.	"	2,000,000	100	1 "	1895	6	8	6
Agua Santa nitrate.	"	3,000,000	50	5 "	1898	156	160	155
Antofagasta, nitrate.	"	2,000,000	200	2 "	1898	140	145	150
Boe. Internacional, nitrate	"	960,000	60	.....	.....	3	5	.....
Union, nitrate.	"	8,000,000	200	.....	.....	40	45	50

* Special report of Jackson Bros. Values are in Chilean pesos or dollars

SALT LAKE CITY, UTAH.*

March 25

STOCKS.†	No. of shares	Par val.	Bid.	Asked.	STOCKS.†	No of shares.	Par val.	Bid.	Asked
Ajax.	300,000	$10	$1.25	$1.40	Homestake.	400,000	$1	$0.12	$0.14
Alice.	400,000	25	.75	1.00	Horn Silver.	400,000	25	1.60	.....
Anchor.	150,000	10	.....	.....	Little Pittsburg	400,000	5	08½	12
Buckeye.	500,000	1	.04¾	.06	Lower Mammoth	150,000	1	73¾	75¼
Bullion-Beck & Ch.	100,000	10	5 00	6 00	Mammoth	400,000	5	1.77½	1 85
Centennial Eureka	80,000	50	43 25	50 00	Mercur.	200,000	25	6 67½	6.80
Chloride Point.	500,000	1	1.00	1 15	Northern Light.	400,000	5	59¾	59
Daisy.	500,000	3	.42½	.43	Omaha.	800,000	2	.44¾	.46½
Dalton.	500,000	5	.02	02½	Ontario.	150,000	100	6.85	7 50
Dalton & Lark.	2,500,000	1	10¾	.10¾	Richmond-An.	500,000	1	10	.11
Daly.	150,000	20	1.24	1.28½	Sacramento	1,000,000	5	49¾	50
Daly West.	150,000	20	10 42½	10 60	Silver King	150,000	20	32 0	.....
Dexter.	200,000	5	2.51	2 62	Star Consolidat'd	500,000	1	1 00½	1.03
Eagle.	150,000	7	.03	09	Sunbeam.	250,000	1	62	70
Eagle & Blue Bell.	250,000	1	1 72½	1.95	Sunshine.	250,000	10	89½	89¾
Emerald.	300,000	1	1 5½	.13	Swansea	100,000	5	4.00	4 05
Four Aces.	250,000	1	43¾	.44	South Swansea.	150,000	1	1.22½	1.23½
Galena.	100,000	10	.41	.46½	Tetro.	300,000	1	07¾	09
Geyser-Marion.	300,000	5	.79¼	.79¾	Utah.	100,000	1	.60	.....
Grand Central	250,000	1	8 45	8.75	Valeo	200,000	10	1.23½	1.28

*From Our Special Correspondent. † Utah companies. ‡ Mines in Vanderbilt, Cal. Mines in Tuscarora, Nev.

SPOKANE WASH.‡

March 15.

Name.	No. of shares.	Par value.	Quotations.	Name.	No. of shares.	Par value.	Quotations.
Ben Hur	600 000	$1	$0.28½	*Number Six.	1,000,000	$0 10	$0.12
Black Tail.	1,000,000	1	.17	Palo Alto	1,000,000	1	.14¼
Bryan & Sewall.	1,000,000	1	03	*Pearl	1,000,000	1	.12½
Butte & Boston.	1,000,000	1	.17¾	Pocahontas	1,000,000	1	.04
Eardman	1,000,000	1	.03	Princess Maud.	1,000,000	1	16
Eureka First Thoug't	1,000,000	1	.05	Quilp	1,00 000	1	.18
Eureka Queen.	1 000,000	1	.08¼	*Rebate	1,000,000	1	19
Gold Harvest Con.	1,000,000	1	.07¾	Republic Gold	1,000,000	1	3 75
Gold Leaf	1,000,000	1	.05	Republic Big Six.	1,250,000	1	08¼
Iron Monitor.	1,000,000	1	.09¾	Republic No 2.	1,000 000	1	06¾
*Jim Blaine.	1,000,000	1	57	Sta Poll.	500,000	1	.91
Liberty	1,000,000	1	14	*Surprise.	1,000,000	1	12
*Lone Pine Con.	1,0 0,000	1	42½	Thoughtful	1,000,000	0 10	.08
Merrimac.	1,000,000	0.1	09¾	Tom Thumb.	1,000,000	1	22
Monroe.	1,000,000	1	08	Trade Dollar	1,000,000	0.10	12¼
Morning Glory.	1,000,000	0 10	.20	Treasury.	1,000,000	0 10	05
Mountain Lyon.	1,500,000	1	.87½				

‡ Telegraphic quotations of the British-Canadian Investment and Mining Syndicate. * Under Republic management. Total sales, 283,000 shares.

TORONTO, CAN.*

NAME OF COMPANY.	Par val.	Mar 23. B.	Mar 23. A.	Mar. 24 B.	Mar. 24 A.	Mar 25. B.	Mar 25. A.	Mar 27. B.	Mar 27. A.	Mar 28. B.	Mar 28. A.	Mar. 29. B.	Mar. 29. A.	Sales
Ontario:														
Golden Star	$1	.....	.....	.68	.68½	68	70	.67½	72	.65	70	.....	.....	2,000
Ham Reef.	1	.....	.....	.47½	48	48	48¾	46¾	48	45½	49	.....	.....	4,700
J. O. 41.	1	.....	.....	.10	.....	18	10	.08¾	.10	.10	.....	.....	.....	1,000
Olive	1	.....	.....	.90	93	.90	93	90	.93	.87	.92	.....	.....	1,000
British Col.:														
Athabaska.	1	.....	.....	46	48	46	48	45	49	44	50	.....	.....	
C'riboo.	1	.....	.....	1.59½	.....	.....	.....	.....	.....	1 61	.....	.....	.....	2,450
CrowsN.P.C	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Dardanell's	1	.....	.....	.10¾	11¼	10	11¼	.15	.12	11	.11¾	.....	.....	6,000
Deer Park.	1	.....	.....	.06	08	07	07½	.07¾	.11	09	.11	.....	.....	2,5 0
GrandPrize	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Iron Colt.	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Iron Horse	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Iron Mask.	1	.....	.....	70	.....	70	.....	70	.....	.70	.80	.....	.....	
Minnehaha	1	.....	.....	20	30	25	27	.24	.30	.25	30	.....	.....	
Monte Crist	1	.....	.....	10	11	09	11	.10	11	.09	11	.....	.....	
Noble Five.	1	.....	.....	.33	.....	.32	.....	.33	.....	.33	.....	.....	.....	
N'r'n Belle.	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rambler C.	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Ra'amullen	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smuggler, g.	1	.....	.....	03	05	.03	.05	.05	.....	.04½	.06	.....	.....	1,000
Tin Horn.	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Victory Tri	1	.....	.....	07	.09	.07	.07½	08	.08¾	02½	.07	.....	.....	1,000
Virginia.	1	.....	.....	49	.....	.45	48	49	.....	49	.....	.....	.....	
War Eagle	1	.....	.....	3 46½	3 49	.....	.....	3 52½	3.60	3.52	3 54	.....	.....	53,000
Waterloo	1	.....	.....	10¾	.11¾	.11	12¼	10¾	12¾	11¾	12¼	.....	.....	
White Bear.	1	.....	.....	04	.05	04	.05	.04	.05	04	.05	.....	.....	
Develop Co.														
B.C. Gold F.	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Can. G. F. S.	9.10	.....	.....	.....	.....	.....	.....	.09	.....	.08	.....	.....	.....	
Gold Hills	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

* Official quotations of the Toronto Mining and Industrial Exchange. Total shares sold, 61,710.

MEXICO.

March 23.

NAME OF COMPANY.	No. of shares.	Last div'd.	Prices. Op'g	Prices. Cl'g.	NAME OF COMPANY.	No. of shares.	Last div'd	Prices Op'g	Prices Cl'g
Chihuahua:					Hidalgo:				
Gloria.	1,500	.....	$50	$50	Real del Monte.	2,354	10 00	760	760
Durango:					San Francisco Ho	6,000	2.00	250	2 0
Barradon y Cab.	2,400	.....	100	100	San Rafael y An.	1,200	10.00	1,0 0	1,000
Candelaria de Pan.	1,200	.....	20	20	do. aviado	1,200	6 00	460	460
Capuzayas.	2,400	.....	5	50	do. del Oro.	3,000	.....	20	20
Penoles.	2,500	30.00	2,000	2,000	Soledad.	960	5 00	35	350
Restauradora.	10,000	.....	20	30	Sorpresa.	960	5 00	2 0	200
Rosario y Anexas.	4,800	.....	10	10	Union Hacienda.	2,000	4 0	385	380
Guanajuato:					Mexico:				
Angustias.	2,400	5.00	315	380	Coronas	300	.....	75	75
Cinco Senores y An	2,000	15.00	240	340	Esperanza y An.	3,000	10 0	1,850	1,750
El Oro.	500	.....	30	30	Michoacan				
do. pref.	2,000	.....	30	30	Luz de Borda ava	3,000	.....	35	55
Guadalupe Hacie'a	10,000	4.00	240	230	do aviado.	1,000	.....	20	20
Trinidad, aviador.	2,000	.....	90	110	Pueblo:				
do. aviado.	400	.....	80	100	Tlauxingo.	2,400	.....	27	38
Zona Minera de Paz	2,400	.....	80	80	S. Luis Potosi:				
Hidalgo:					Concep. y An.	2,400	10 00	100	100
Amistad y Concord.	9,600	1.52	28	29	Sta. Mariadela Paz	2,400	10 00	715	720
Arevalo.	720	.....	200	200	Zacatecas:				
Bartolome de Med.	2,000	8.00	80	80	Asturiana y An.	2,500	10.0	75	120
Carmen.	1,100	7.75	500	500	Cabezon	2,400	.....	15	15
Luz de Maravillas.	1,100	.....	200	200	C'delar. de Pinos.	2,500	.....	135	100
Pabellon.	1,000	27.99	20	20	Palma de Somb.	2,400	.....	100	100

NOTE.—In most of the older Mexican mining companies the shares have no fixed par value. The capital is formed of a certain number of shares, the total value not being named. Many newer companies have a nominal par value, usually $50 or $100. Prices are in Mexican dollars.

SHANGHAI, CHINA.*

Feb. 27.

NAME OF COMPANY.	Country.	No. of shares.	Value. Par.	Value. Paid up.	Last dividend. Date.	Last dividend. Amount.	Price.
Jelubu Mg. & Trad.	China.	45,000	$5	$5	Oct., 1894.	$0.25	Taels 5 29
Punjom Mg., Ltd.	"	60,000	8	5	.....	.....	" 4.88
do. pref	"	30,000	1	1	.....	.....	" 1.17
Raub A'lian G. Mg.	"	200,000	$1	148. 10d.	July, 1898.	.51	" 41.83
Sheridan Con. M. & M.	Colorado, U.S	20,000	Taels 100	Taels 100	.....	.....	" 4 00

*Special report of J. P. Bissett & Co. The prices quoted are in Shanghai taels.

STOCK QUOTATIONS.

LONDON.

March 17.

NAME OF COMPANY.	Country.	Authorised capital.	Par value.	Last dividend. Amt.	Last dividend. Date.	Quotations. Buyers £ s. d.	Quotations. Sellers £ s. d.
Alaska-Mexican, g.	Alaska	£200,000	£ s. d. 1 0 0	s.d. 0 4.8	Feb., 1899	17 6	1 2 6
Alaska-Treadwell, g.	"	1,000,000	5 0 0	1 6	"	4 12 6	4 17 6
Anaconda, c., s	Montana	6,000,000	5 0 0	1 5 1½	May, 1899	8 16 3	9 2 6
Cariboo, g f, pref.	BritishCol'mbia	160,000	1 0 0			10 0	15 0
Chiapas, g., s., c.	Mexico	252,500	1 0 0			5 0	7 0
Con. Gold Fields	"	300,000	1 0 0			13 9	16 3
De Lamar, g., s.	Idaho	400,000	1 0 0	6	May, 1898	4 0	5 0
Elkhorn Priority (New), s	Colorado	87,500	1 0 0	1 0	June, 1898	1 3	3 9
Golden Gate, g.	California	80,000	1 0 0			1 3	3 9
Grand Central, g., s	Mexico	300,000	1 0 0	2 0	Mar., 1899	1 7 6	1 10 0
Hall Mines, c., s.	British Col	250,000	1 0 0	1 0	May, 1898	6 3	8 9
Le Roi, g.	"	1,000,000	5 0 0			5 12 6	5 15 0
Lillie, g.	Colorado	1,250,000	1 0 0	2½	Apr., 1899	1 3 9	1 6 3
Lillooet, F. R. & Car., g.	British Col	300,000	5	2½	Mar., 1899	5 0	10 0
Montana, g., s.	Montana	660,000	1 0 0	6	Apr., 1899	7 6	8 0
Mountain Copper	California	1,250,000	5 0 0	2 6	Sept., 1898	6 15 0	7 0 0
Palmarejo & Mexican, g., s	Mexico	80,000	1 0 0			3 9	4 3
Pumas-Eureka, g., s.	California	281,250	2 0 0	0 6	Oct., 1896	2 6	3 6
Richmond, g., s., l.	Nevada	270,000	5 0 0	1 0	Dec., "	5	7 6
Sierra Buttes, g.	California	245,000	2 0 0	0 6	Apr., "	1 6	2 6
Colomb. Hydraulic, g.	Colombia	25,000	1 0 0	6	Jan., 1899	8 9	11 3
Coplapo, c.	Chile	300,000	2 0 0	2 0	Dec, 1898	3 2 6	3 7 6
*Frontino & Bolivia, g.	Colombia	140,000	1 0 0	1 0	Dec., 1898	2 6	3 2 6
St. John del Rey, g.	Brazil	600,000	1 0 0	1 0	Jan., 1899	8 6	1 9 6
Tolima A., s., g.	Colombia	70,000	5 0	5 0	July, 1897	1 10 0	2 0 0
Tolima B., s., g.	"	80,000	5	5 0	"	1 5 0	1 5 0
UtahCon., g(Highl'ndBoy)	Utah	300,00	1 0 0	rts.	Mar., 1898	8 0 0	8 10 0
British Am. Corp.	BritishCol mbia	1,500,000	1 0 0	rts.	Dec., 189-	18 3	18 9
Linares, l.	Spain	45,00	3 0 0	12 6	Mar., 1899	8 10 0	9 10 0
Mason & Barry, c., sul.	Portugal	630,000	5 0 0	X	Oct., 1898	5 12 6	6 3 17 6
Rio Tinto, c	Spain	1,625,000	5 0 0	£1	Nov., 1898	39 15	39 17 6
" " pref.	"	1,625,000	5 0 0	2 6	May, 1898	6 3 9	6 6 3
Tharsis, c	"	1,350,000	2 0 0	10 0	"	8 10	8 15 0
Assoc. Gold Mines	W. Australia	500,000	1 0 0	2 0	Feb., 1899	6 5	6 7 6
Broken Hill Prop., s.	N.S.Wales	384,000	8 0 0	1 6	Jan., 1899	2 5 0	2 7 6
Great Boulder, Prop.	W. Australia	1,750,000	1 0 0	2 0	Feb., 1899	1 3 6	1 4 6
Hannan's Brownhill, g.	"	110,000	1 0 0	7 6	Feb., 1899	8 2 6	8 5 0
Ivanhoe Gold Corp.	"	1,000,000	1 0 0	5 0	Feb, 1899	8 8 9	8 11 3
Kalgurlie, g	"	120,000	5 0 0	rts.	Feb, 1899	7 8 9	7 11 3
Lake View Consols, g.	"	250,000	1 0 0	5 0	Mar., 1899	11 15 0	11 17 6
Mt. Lyell M. & R., l., c.	Tasmania	900,000	1 0 0	2 6	Apr, 1899	8 0 0	8 5 0
Mt Morgan, g.	Queensland	1,000,000	3 0 0	7	Mar., 1899	5 5 0	5 7 6
Waihi g	New Zealand	320,000	1 0 0	2 0	Mar., 1899	5 10 0	5 15 0
West Aust. Jt. Stk. Lin. & F	W. Australia	1,000,000	1 0 0	1 0	Dec, 1898	8 3	8 9
Champion Reef, g.	Colar Fields	220,000	1 10 0	4	Jan., 1899	4 13 9	4 16 3
Mysore Gold, g.	"	250,000	1 10 0	5 6	Mar., 1899	5 8 9	5 11 3
Nundydrog, c.	"	242,000	0 0	1 6	"	1899 3 15 0	3 7 6
Ooregam, g	"	145,000	1 0 0	1 0	Dec., 1898	3 10 0	3 12 6
" pref. g.	"	120,000	1 0 0	1 0	" 1898	4 0 0	4 5 0
Angelo, g.	Transvaal	275,000	1 0 0	5 0	Jan., 1899	7 17 6	8 0 0
Bonanza, g.	"	200,000	1 0 0	10 0	Dec, 1898	4 8 9	4 11 3
British S. Af., chartered	So. Africa	3,750,000	1 0 0	rts.	Jan., 1899	3 14 6	3 15 9
Cape Copper, c.	"	600,000	1 0 0	7 0	Jan., 1899	4 0 0	4 5 0
pref	"	150,000	2 0 0	7 0	" 1899	3 15 0	4 5 0
City & Suburban (New), g.	Transvaal	1,360,000	2 0 0	6 0	Feb, 1899	6 6 3	6 8 9
Con Deep Level, g	"	200,000	4 0 0	xb.	Apr., 1898	3 0 0	3 5 0
Crown Reef, g.	"	120,000	1 0 0	10 0	May, 1899	18 5 0	18 15 0
De Beers Con., d	Cape Colony	3,950,000	1 0 0	£1	Jan., 1899	28 1 3	28 3 9
Durban Roodepoort, g.	Transvaal	135,000	5 0 0	4	" 1899	6 12 6	7 17 6
Ferreira, g.	"	90,000	1 0 0	30 0	Feb., 1899	23 15 0	24 5 0
Geldenhuis Deep, g.	"	350,000	1 0 0	9 0	Feb., 1899	10 10 0	11 0 0
Geldenhuis Est., g.	"	200,000	1 0 0	7 6	" 1899	8 10 0	8 12 6
Ginsberg, g.	"	160,000	1 0 0	4 0	Feb., 1899	3 8 9	3 11 3
Henry Nourse, g.	"	125,000	1 0 0	10 0	Feb., 1899	9 2 6	9 7 6
Heriot (New), g.	"	115,000	1 0 0	5 0	" 1899	7 5 0	7 10 0
*Jagerafontein, d	Orange Fr. St.	1,000,000	1 0 0	6 0	Dec, 1898	13 7 6	13 12 6
Johannesburg Con. Invst	So. Africa	2,750,000	1 0 0	2 0	Aug., 1897	1 18 9	2 0 0
Jubilee, g.	Transvaal	50,000	1 0 0	5 0	Feb., 1899	7 0 0	7 5 0
Jumpers, g.	"	100,000	1 0 0	10 0	" 1899	6 2 6	6 7 6
*Kleinfontein, g.	"	275,000	1 0 0	rts.	Apr., 1898	3 2 6	3 5 0
Langlaagte Estate, g.	"	500,000	1 0 0	3 0	Jan., 1899	3 18 9	4 2 6
May Con. (New), g.	"	275,000	1 0 0	3 0	Feb. 1899	4 2 6	4 15 0
Meyer & Charlton, g.	"	85,000	1 0 0	7 0	Jan., 1899	6 7 6	6 10 0
Namaqua, c.	Cape Colony	200,000	1 0 0	2 6	Dec., 1898	3 7 6	3 10 0
Primrose (New), g.	Transvaal	300,000	2 0 0	6 0	Jan., 1899	4 17 6	5 0 0
Rand Mines, g.	So. Africa	400,000	1 0 0	£1	Feb., 1899	42 15 0	43 0 0
Robinson, g.	Transvaal	2,750,000	1 0 0	9 0	" 1899	10 17 6	11 2 6
Sheba, g.	"	1,100,000	1 0 0	0 6	July, 1898	1 11	1 13 9
Sim. & Jack Prop., g.	"	5,000,000	5 0 0	3 6	Jan., 1899	6 2 6	6 5 0
Sim. & Jack West, g.	"	400,000	1 0 0			4 17 6	5 2 6
Sim. & Jack East, g.	"	70,000	1 0 0			3 7 6	4 2 6
Wemmer, g.	"	80,000	1 0 0	15 0	Jan., 1899	12 15 0	13 0 0
Wolhuter, g.	"	860,000	4 0 0	2 0	Feb, 1899	5 17 6	6 2 6
Worcester, g	"	100,000	1 0 0	3 0	Feb., 1899	3 0 0	3 5 0

*Dividend pending.

PARIS.

March 16.

NAME OF COMPANY.	Country.	Product.	Capital Stock.	Par value.	Latest divs.	Prices. Op'ning	Prices. Closing.
			Francs.	Fr.	Fr.	Fr.	Fr.
Aciéries de Creusot	France	Steel mfrs.	27,000,000	2,000	75.00	2,170.00	2,150.00
" " Firminy	"	" "	3,000,000	500	85.00	3,780 00	3,740 00
" " Five-Lille	"	" "	12,000,000	500	85.00	690.00	670.00
" " Huta-Bank	Russia	Iron & steel		500		4,425.0	4,420.00
" " la Marine	France	Steel mfrs.	20,000,000	500	40.00	1,650.00	1,655.00
" " Longwy	"	" "		500	35.00	1,150.00	1,195 00
Anzin	France	Coal	600,000	300	60.00	5,4 0.0	5,440.00
Biache-St. Vaast	"	Steel		1,000	160.00	3,80.0	3,800.00
Boleo	Lower Cal.	Copper		500	93.50	2,326 0	2,340.00
Briansk	Russia	Coal & Iron		500		1,380.0	1,3 4 00
Bruay	France	Coal	3,000,000	400	900.00	39,000.00	39,000.00
Cape Copper	S. Africa	Copper	15,000,000	50	1.50	108 0	.05 00
Champ d'Or	"	Gold	3,375,000	25		63.75	62 00
Courrieres	France	Coal	600,000	300	60.00	2,180.00	2,180.00
De Beers Consolidated	S. Africa	Diamonds	98,750,000	125	15.63	749.00	713.50
Denain-Anzin	France	Steel		500	20.50	930.00	930.10
Dombrowa	Russia	Coal		500	12.50	1,240.00	1,170 00
Donets	"	Steel				1,20 .00	1,220.00
Dourges	"	Coal		1,000	300.00	20,9 0.00	20,920.00
Dynamite Centrale	France	Explosives		500	12.50	545 00	537.00
Epinac	"	Coal		2,500	20.83	599.00	590.00
Escombrera-Bleyberg	Spain	Lead		500	35.00	1,1 7.0	1,180 00
Fraser River	"	Gold	250,000	25		10.00	9 50
Huanchaca	Bolivia	Silver	40,000,000	125	5.00	56 50	57.05
Langlaagte Estate	S. Africa	Gold	11,750,000	25	11.25	100.00	98.00
Lagunas	Chile	Nitrates	16,250,000	125	12.51	83.00	33 00
Laurium	Greece	Zinc & lead	16,300,000	500	33.00	620.00	615.00
Lautaro	Chile	Nitrates	13,750,000	125		96.00	100.00
Malfidano	Italy	Zinc	12,500,000	500	40.00	1,2 0.00	1,260.00
Metaux, Cie. Fran. de	France	Metal d'lers.	25,000,000	500	31.00	668 00	662.00
Mokta-el-Hadid	Algeria	Iron	18,312,500	500	40.00	1,18 0	1,180.00
Napthe Baku	Russia	Petroleum				885.0	842.00
Napthe, Le	"	"				2,600 0	2,5 5.00
Napthe Nobel	"	"				645 0	6 5.00
" " parts	"	"				12,850.0	12,825.00
Nickel	N. Caled'nia	Nickel	10,000,000	200	30.00	430.0	445 00
Paccha-Jazpampa	Chile	Nitrates	9,000,000	125		12.50	12.50
Penarroya	Spain	Coal, etc.		500	65.00	2,6 0.0	2,620.00
Rebecca	Colo'do, U.S.	Gold	5,000,000	25		5.00	5.00
Rio Tinto	Spain	Copper	40,625,000	125	47.70	1,0 2.00	1,0 8.0
" " preferred	"	"	40,625,000	125		157.00	160 0
Rive-de-Gier	France	Coal				23 0.0	22.5
Robinson	S. Africa	Gold	68,750,000	125	12.50	276 0	282.00
St. Etienne	France	Coal			18.00	475 00	472.00
Salines de l'Est	France	Salt		500	11.50	250.00	265.00
Salines du Midi	France	" etc		500	20.00	840 0	850.00
Sels Gem. de la Rus. Mer	Russia	etc		500	25.00	644.0	635.00
Tharsis	Spain	Copper	33,750,000	50	6.75	224.5	223 00
Vicoigne-Neux	France	Coal		1,000	700.00	22,995.00	23,00 0.0
Vieille Montagne	Belgium	Zinc	9,000,000	80	30.00	780.00	775.00

MEETINGS.

NAME OF COMPANY.	Location	Meeting.	Date.	Place of Meeting.
Alamo	Utah	Annual	May 20.	Salt Lake City, Utah.
Alaska-Juneau	Alaska	"	Apr. 21.	San Francisco, Cal
Anaconda	Montana	"	May 9	Anaconda, Mont.
Annie	Utah	"	May 5	Salt Lake City, Utah.
Arcadian	Michigan.	Special.	Apr. 1	Boston, Mass
Basin & Bay State	Montana.	Annual.	May 27	Basin, Mont.
Boston & Montana	"	"	Apr. 29	Butte, Mont
Buckeye	So. Dak	"	May 2	Deadwood, South Dakota.
Bunker Hill & Sull.	Idaho	"	June 17	Crocker Bldg., San Francisco, Cal.
Butte & Boston	Montana	"	Apr. 5	83 Fulton st., New York City
Cinderella	Mexico	"	"	5, Exchange Place, New York City.
Champion	California	"	Apr 13	115 Crocker Bldg., San Francisco, Cal
Church	"	"	May 6	San Francisco, Cal.
Crown Point	Nevada	"	June 7	Mills Building, San Francisco, Cal
Franklin	Michigan.	"	Apr. 19.	19 Congress st., Boston, Mass
Golden Star	Utah	"	Apr. 4	214 Atlas Block, Salt Lake City, Utah.
Homestake	Utah	"	May 6	Salt Lake City, Utah.
May Day	Utah	"	Apr. 7.	Salt Lake City, Utah.
Morgan	California	"	May 6	230 Montgomery st, San Francisco, Cal.
Ni-i Pruss	Colorado	"	Apr. 5.	Leadville, Colo
Old Dominion	Arizona	"	Apr 5	Jersey City, N J
Overland	Utah	Special.	Apr. 1	409 Daly block, Salt Lake City, Utah.
Pharmacist	Colorado	Annual.	Apr. 27.	Colorado Springs, Colo.
Red Wing	Utah	Special.	Apr. 4.	410 Atlas Block, Salt Lake City, Utah.
Reno	Colorado	Annual.	Apr. 13	329 Lawrence st., Denver, Colo.
South Swansea	Utah	"	Apr. 4	Salt Lake City, Utah.
Smuggler Union	Colorado	"	May 17	Denver, Colo.

DIVIDENDS.

NAME OF COMPANY.	Current dividends. Date.	Current dividends. Am't.	Paid since Jan. 1, 1899.	Total to date.
Alaska-Mexican			$18,000	$335,031
Alaska-Treadwell			75,000	3,990,000
Ætna Con.	Apr. 1	10,000	20,000	170,000
American Gold	Mar15	21,000	21,000	407,000
Anaconda Copper	May 3	1,500,000	1,500,000	9,750,000
Anchoria-Leland			18,000	192,000
Apollo Con., Alas.			40,000	140,000
*Argonaut, Col.	Mar15	20,000	60,000	240,000
Bald, Butte	Mar14	15,000	30,000	679,648
Boston & Cal	Mar. 2	36,000	36,000	36,000
Boston & Colo. Sm.			75,000	300,000
*Boston & Mont.			750,000	9,875,000
Breece	Mar. 1	10.000	10,000	40,000
*Bul. Bec. & Champ.	Mar15	19,000	30 000	2,348,460
*Bunker Hill & S.	Mar. 4	21,000	63 000	663,000
Calumet & Hecla	Mar23	4,000,000	4,000,000	60,850,000
*Cariboo			12 000	248,965
*Centenn'l Eureka	Mar15	15,000	45,000	2,075,000
*Central Lead	Mar15	5,000	15,000	97,000
Colorado Sm.			100,000	1,945,000
Deer Trail No. 2, Wash			2,500	17,500
*Doe Run	Mar15	2.500	7,500	67,500
*Empire State, Ida.	Mar15	14,777	44,331	166,233
Ferris-Haggerty, Wyo	Mar. 1	5,000	5,000	5,000
Germania Lead			3,750	
*Gold Coin, Vict.	Mar25	10,000	30,000	180,000
*Golden Cycle	Mar15	5,000	15,000	168,500
*Gold King, Col.			10,000	10,000
*Golden M. & Ex.			10,000	10,000
*Grand Central, Ut.	Mar10	37,500	100,000	318,750
Grass Valley Ex.			7,500	
Gwin, Cal	Mar10	5,000	5,000	21,000
*Highland	Mar16	20,000	60,000	3,844,718
Holy Terror	Mar15	5,000	5,000	122,000
*Homestake	Mar25	62,500	187,500	7,368,750
Horn Silver	Mar31	20,000	20,000	5,230,000
Idaho, B. C.			28,000	292,000
*Isabella			135,000	405,000
Jack Pot	Mar25	25,000	25,000	25,000
Jamison, Cal	Apr 15	$11,700	$11.700	$35,100
*Lake Superior Ir.			84,000	736,000
*Lillie	Apr. 1	12,500	50,000	215,360
Mead, Cal	Mar. 2	20,000	20,000	100,000
Mercur			25,000	1,265,000
Modoc	Mar25	10,000	30,000	110,000
Montana, Ltd	Apr. 7	78 855	28.855	453,700
Mont. Ore Pur	Mar20	80,000	160.000	960,000
Morning Star, Cal	Mar 5	7,200	26,400	714,600
Moulton, Mont			20,000	480 000
Napa Con.	Apr.	20,000	40,000	980,000
New Idria	Apr. 1	20,000	40,000	120,000
N. Y. & Hond-Rosario	Mar20	15,000	30,000	1,020,000
Parrot	Mar20	69,000	207,000	2,345,898
Pennsylvania	Mar. 5	2,575	7,725	59,375
Pioneer, Cal.	Mar15	12,500	12.500	62,500
Plumbago, Cal.			45,000	45,000
Portland	Mar15	60,000	180,000	2,017,080
Quincy			350,000	10,470,000
Rambler Cariboo	Apr. 1	10,000	10,0000	50,000
Republic, Wash.			30,000	120,000
Sacramento	Apr. 1	5,000	20 000	77,000
St. Joseph Lead	Mar20	37,500	37,500	2,822,000
Silver King	Mar10	37,500	125,000	1,875,000
Small Hopes			25,000	3,325,000
Smuggler			10,000	1,105.000
South Swansea	Mar. 6	7,500	7,500	112,460
Strong	Mar15	25,000	75.000	600,000
Swansea	Mar10	5,000	15,000	151,500
Utah, Utah			2,000	179.000
Vindicator			50 750	177,625
†War Eagle, B. C.	Apr 15	26,250	105 000	282,750
Wolverine	Apr. 1	90,000	90,000	150,000
Yellow Aster			10,000	168,789
Grand Total		$6,538,357	$9,612,511	145,978,732

*February dividend paid. †March dividend paid.

ASSESSMENTS.

NAME OF COMPANY.	Location.	No.	Delinq.	Sale.	Amt.
Alta	Nev.	61	March 10	April 4	.05
Alta	Utah		March		.00½
Belcher	Nev.	60	March 21	April 11	.10
Best & Belcher	Nev.	66	April 10	May 2	.10
Challenge Con.	Nev.	26	March 15	April 5	.05
Dalton	Utah		April 10	May 1	.01
Eureka Con. D.	Cal.	17	April 11	April 28	.00½
Gold Eagle	Nev.		April 15	May 16	.01
Gold & Sil. Carb.	Utah		March 16	April 3	.00½
Great Western	Cal.	5	March 20	April 10	.15
Hed CenterCon	Ariz.		May 2		.20
Marina Marsicana	Cal		April 17		.05
Montreal	Utah		April 10	May 16	.05
Joe Bowers Ex	Utah		March 18	April 5	.01
Junction	Cal	23	March 13	April 3	.03
Live Oak & Minnett	Cal		April 8		.05
National	Cal		May 8		.10
Occidental	Nev.	32	April 10	May 1	.10
Ophir	Nev.	74	April 10	May 1	.15
Orleans	Cal	8	March 14	April 5	.07
Overman	Nev.	2	March 27	April 18	.05
R. G. W	Utah	1	March 18	April 4	.01
Shower Con	Utah	1	Dec 23	April 3	.02
Snowflake	Utah	12	April 7	April 28	.02
Success	Utah	4	April 20	May 13	.00¼
Tetro	Utah	7	April 20	May 15	.01
Texas	Cal	1	May 15	May 30	.15
Watt Blue Gravel	Cal		May 1		.03
Yankee Girl	Utah		April 15	May 17	.02
Yellow Jacket	Nev.	1	April 11	May 17	.15

*New Assessment.

DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Shares. Par Val	Assessments. Total Levied.	Assessments. Date and Amount of Last.			Dividends. Total Paid.	Dividends. Date and Amount of Last.		
1	Ætna Cons., q	Cal	$500,000	$100,000	$5	- *				$160,000	Jan.	1899	.10
2	Alaska-Mexican, g	Alask	1,000,000	200,000	5					335,031	Jan.	1899	.10
3	Alaska-Treadwell, g	Alask	5,000,000	200,000	25	*				3,995,000	Jan.	1899	.37½
4	Alice, g. s	Mont.	10,000,000	400,000	25	*				1,075,000	April.	1898	.05
5	American Gold, g. s. c. l	Colo.	3,000,000	300,000	10	*				362,000	Oct.	1898	.09
6	Anaconda Copper	Mont.	30,000,000	1,200,000	25					8,250,000	Nov.	1898	1.25
7	Anchoria-Leland, g	Colo.	600,000	600,000	1	*				192,000	Jan.	1899	.03
8	Appie Ellen, g	Colo.	600,000	600,000	1					25,000	Aug.	1898	.01
9	Associated, g	Colo.	1,250,000	1,250,000	1	*				72,000	Dec.	1898	.01
10	Atlantic, c	Mich.	1,000,000	40,000	25					780,000	Feb.	1898	1.00
11	Aurora, l	Mich.	2,500,000	100,000	25	*				750,000	May.	1898	.50
†12	Bald Butte	Mont.	250,000	250,000	1	*				649,648	Dec.	1898	.06
13	Big Six, g. s	Colo.	500,000	500,000	1					15,000	May.	1898	.00½
14	Boston & Colorado Sm.	Colo.	750,000	15,000	50					300,000	Jan.	1899	5.00
15	Boston & M. Cons., g. s. c	Mont.	3,750,000	150,000	25	*				9,875,000	Feb.	1899	5.00
16	Breece, l	Colo.	5,000,000	200,000	25					40,000	Mar.	1899	.05
17	Bullion-Beck & Champ.	Utah.	1,000,000	100,000	10	*				2,328,400	Feb.	1899	.10
18	Bunker Hill & S., s. l	Idaho	3,000,000	300,000	10					642,000	Feb.	1899	.07
19	Calumet & Hecla, c	Mich.	2,500,000	100,000	25					60,850,000	Mar.	1899	10.00
20	Cariboo, g	B.C.	800,000	800,000	1					236,965	Aug.	1898	.02
21	Centen l-Eureka, g. s. l. c	Utah.	1,500,000	30,000	50	30,000	Mar.	1889	1.00	2,055,000	Feb.	1899	.50
22	Central Lead, l	Mo.	1,000,000	10,000	100	*				92,000	Feb.	1899	.50
23	Champion, g. s	Cal.	340,000	34,000	10					296,200	April.	1898	.25
24	Charleston, p. r	S. C.	1,000,000	10,000	100	*				180,000	Dec.	1898	1.50
25	Colorado, Sm., g. s. c	Mont.	1,000,000	100,000	10	*				1,945,000	Jan.	1899	1.00
26	Con. Tiger & Poorman	Idaho	1,000,000	1,000,000	1	*				20,000	Dec.	1898	.02
27	Creston Leasing	Colo.	1,000,000	1,000,000	1					54,000	Dec.	1898	.01
28	Crowned King, g. s. l	Ariz.	6,000,000	600,000	10	*				232,000	Dec.	1898	.02
29	Daly, s. l	Utah.	3,000,000	150,000	20					2,925,000	Mar.	1897	.25
30	†Deadwood-Terra, g	S. D.	5,000,000	200,000	25	*				1,350,000	May.	1898	.15
31	De Lamar, g. s	Idaho	2,000,000	400,000	5					2,298,000	May.	1898	.29
32	Della S	Colo.	1,000,000	1,000,000	1					60,000	Jan.	1897	.10
33	Doe Run, l	Mo.	500,000	5,000	100					65,000	Feb.	1899	.50
34	Dutch, g	Cal.	1,500,000	150,000	10					39,000	Feb.	1898	.04½
35	Elkton Cons., g	Colo.	1,250,000	1,250,000	1					656,961	Nov.	1898	.01½
36	El Paso, g. s	Colo.	650,000	650,000	1					12,393	Jan.	1898	.01
37	Enterprise, s. l	Colo.	500,000	500,000	1					900,000	Sept.	1898	.05
38	Empire State-Idaho	Idaho	1,000,000	100,000	10					106,233	Feb.	1899	.10
39	Fern	B.C.	200,000	200,000	1					10,000	Jan.	1898	.05
40	Florence, s	Mont.	2,500,000	500,000	5	*				137,530	Aug.	1897	.01
41	Geyser-Marion, g	Utah.	1,500,000	300,000	5					96,000	Sept.	1898	.02
42	Gold Coin, g. s	Colo.	1,000,000	200,000	5	*				160,000	Nov.	1897	.05
43	Gold Coin of Victor, g	Colo.	1,000,000	1,000,000	1					180,000	Mar.	1899	.01
44	Golden Cycle, g	Colo.	1,000,000	200,000	5					168,500	Mar.	1899	.02½
45	Golden Fleece, g. s	Colo.	600,000	600,000	1	*				569,179	Feb.	1897	.01
46	Gold & Globe, g	Colo.	750,000	750,000	1					51,625	July.	1897	.00⅝
47	Gold King, g	Colo.	1,000,000	1,000,000	1					10,000	Feb.	1899	.01
48	Golden Reward, g	S. D.	1,000,000	100,000	10					155,000	Feb.	1898	.15
49	Grand Central, g	Utah.	250,000	250,000	1					281,250	Feb.	1899	.12½
50	Gwin, g	Cal.	1,000,000	20,000	50	286,000	Jan.	1898		51,500	Jan.	1897	.06
51	Hall Mines, Ltd	B. C.	1,250,000	250,000	5					160,000	May	1898	.25
52	Hecla Cons., g. s. c. l	Mont.	1,500,000	30,000	50	*				2,175,000	Feb.	1897	.50
53	Highland, g	S. D.	10,000,000	100,000	100	304,000				3,844,718	Mar.	1899	.20
54	Holy Terror, g	S. D.	500,000	500 000	1					117,000	Sept.	1898	.03
55	Homestake, g	S. D.	12,500,000	125,000	100	200,000	July.	1878	1.00	7,306,250	Feb.	1899	.50
56	Hope of St. Louis, s	Mont.	1,000,000	100,000	10	*				762,252	Mar.	1898	.10
57	Horn Silver, g. s. c. sp. l	Utah.	10,000,000	400,000	25	*				5,210,000	Oct.	1898	.05
58	Idaho	B. C.	500,000	500,000	1					292,000	Jan.	1899	.05
59	Iowa, g	Colo.	1,000,000	1,000,000	1					95,000	June.	1898	.00½
60	Iron Mountain, g. s. l. i	Mont.	5,000,000	500,000	10	*				507,500	April.	1898	.02
61	Isabella, g	Colo.	2,250,000	2,250,000	1					405,000	Feb.	1899	.06
62	Jersey Leasing	Colo.	200,000	158,167	1					137,875	Oct.	1898	.03½
63	Last Chance, s. l	B. C.	500,000	350,000	1	*				40,000	Jan.	1897	.04
64	Le Roi	B. C.	5,000,000	200,000	25					825,000	April.	1898	.10
65	Lillie, g	Colo.	1,250,000	250000	5					190,360	Feb.	1899	.05
66	Mammoth, g. s. c	Utah.	10,000,000	400,000	25	*				1,350,000	Dec.	1898	.05
67	Matoa, g	Colo.	1,000,000	1,000,000	1					25,000	Dec.	1898	.02½
68	Mead, g	Cal.	200,000	200,000	1					80,000	Dec.	1898	.40
69	Mercur, g	Utah.	5,000,000	200,000	25	*				1,266,000	Jan.	1899	12½
70	Minnesota Iron, i	Minn.	16,500,000	165,000	100	*				4,735,000	Oct.	1898	1.50
71	Modoc, g	Colo.	500,000	500,000	1					100,000	Dec.	1898	.01
72	Montana, Ltd., g. s	Mont.	3,300,000	657,128	5	* *				374,845	Feb.	1899	.05
73	Montana Ore Purchas'g	Mont.	2,500,000	80,000	25	*				880,000	Jan.	1899	1.00
74	Montreal	Colo.	1,000,000	1,000,000	1					7,500	Nov.	1898	.01
75	Moon-Anchor Con., g	Colo.	1,750,000	600,000	1					261,000	Nov.	1898	.07½
76	Morning Star, g	Cal.	240,000	2,400	100	70,800	Feb.	1887	.75	707,400	Feb.	1899	4.00
77	Monument	Colo.	300,000	300,000	1					12,624	Dec.	1898	.01
78	Mt. Rosa, g	Colo.	1,000,000	1,000,000	1					60,000	Jan.	1898	.02
79	Moulton	Mont.	2,000,000	400,000	5					480,00	Feb.	1899	.05
80	Mountain Copper	Cal.	6,250,000	250,000	25					93,750	Sept.	1898	.62½
81	Napa Cons., q	Cal.	700,000	100,000	7	*				970,000	Jan.	1899	.20
82	New Idria Quicksilver	Cal.	500,000	100,000	5					100,000	Jan.	1899	.20
83	N. Y. & Hon Rosario, s. g	C. A.	1,500,000	150,000	10	*				990,000	Feb.	1899	.10
84	North Star, g	Cal.	2,000,000	300,000	10	20,000	June.	1885	.02	500,000	Nov.	1898	.25
85	Nugget	Colo.	1,000,000	1,000,000	1					20,000	Aug.	1898	.00½
86	Ontario, s. l	Utah.	15,000,000	150,000	100					13,557,500	Nov.	1897	.75
87	Orphan Bell, g	Colo.	1,000,000	1000,000	1					115,125	Mar.	1898	.01
88	Ophir Hill	Utah.	25,000	1,000	25					20,000	Dec.	1898	20.00
89	Osceola, c	Mich.	2,500,000	91,000	25	*				2,522,500	Dec	1898	2.00
90	Parrot, c	Mont.	2,300,000	230,000	10	*				2,276,898	Feb.	1899	.30
91	Pennsylvania Cons	Cal.	5,150,000	51,500	100	50,051	Feb.	1892	.05	56,800	Feb.	1899	.05
92	Pioneer g	Cal.	1,000,000	100,000	10					50,000	Dec.	1898	.12½
93	Plumbago, g	Cal.	300,000	300,000	1					45,000	Jan.	1899	.15
94	Portland, g	Colo.	3,000,000	3,000,000	1	*				1,957,080	Feb.	1899	.02
95	Princess, g	Colo.	1,000,000	1,000,000	1					45,000	Feb.	1897	.00½
96	Quincy, c	Mich.	2,500,000	100,000	25	*				10,470,000	Feb.	1899	3.50
97	Rambler-Cariboo	B. C.	1,000,000	1,000,000	1					40,000	April.	1897	.02
98	Raven, g	Colo.	1,500,000	1,500,000	1					19,500	Mar.	1898	.01
99	Reco, s. l	B. C.	1,000,000	1,000,000	1					297,500	Jan.	1898	.10
100	Republic, g	Wash	1,000,000	1,000,000	1					120,000	Jan.	1899	.03
101	Sacramento, g	Utah.	5,000,000	1,000,000	5					67,000	Feb.	1899	.00½
102	St. Joseph, l	Mo.	3,000,000	300,000	10	*				2,784,500	Dec.	1898	1.50
103	Santa Rosalia, g. s	Cal.	100,000	100,000	1					125,000	Feb.	1898	.10
104	Silver King, g. s. l	Utah.	3,000,000	150,000	20	3,000	Jan.	1897	.02	1,837,500	Feb.	1898	.25
105	Slocan Star	B. C.	1,000,000	2,000,000	0.50					400,000	Mar.	1897	.05
106	Small Hopes, s	Colo.	5,000,000	250,000	20	*				3,325,000	Feb.	1898	.10
107	Smuggler, s. l. z	Colo.	1,000,000	1,000,000	1					1,105,000	Jan.	1899	.01
108	South Swansea, s. l	Utah.	150,000	150,000	1					104,960	Aug.	1898	.05
109	§Standard Cons., g. s	Cal.	2,000,000	200,000	10	99,888	June.	1890	.50	3,839,226	Aug.	1898	.10
110	Swansea, s. l	Utah.	500,000	100,000	5					146,500	Feb.	1899	.05
111	Tamarack, c	Mich.	1,500,000	60,000	25					5,570,000	Dec.	1898	4.00
112	Tomboy, g	Colo.	2,000,000	200,000	10					650,000	Dec.	1898	.25
113	Utah	Utah.	1,000,000	100,000	10	*				179,000	Jan.	1899	.02
114	Victor, g	Colo.	1,000,000	200,000	5	*				1,155,000	Dec.	1898	.50
115	Vindicator, Cons. g	Colo.	1,500,000	1,015,000	1					177,625	Jan.	1899	.05
116	§§ War Eagle, Cons	B. C.	2,000,000	1,750,000	1					230,250	Feb.	1899	.01½
117	Western Mine Enterp.	Mont.	500 000	500,000	1	*				48,680	Jan.	1898	.20
118	Whitewater	B. C.	625,000	125,000	5					194,000	April.	1898	.32
119	Wolverine, c	Mich.	1,500,000	60,000	25	180,000	Mar.	1895	1.00	60,000	Oct.	1898	1.00
120	Yellow Aster, g	Cal.	1,000,000	100,000	10	*				168,789	Jan.	1899	.10
121													

NON-DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Shares. Par Val	Assessments. Total Levied.	Assessments. Date and Amount of Last.		
1	Ada Cons., s. l	Utah.	$100,000	100,000	$1	$3,333	Nov.	1895	.01½
2	Alamo, g. c. l	Utah.	125,000	125,000	1	937	Mar.	1898	.00¼
3	Alliance, g. s. l	Utah.	150,000	150,000	1	200,000	Dec.	1895	.10
4	Allouez, c	Mich.	2,000,000	80,000	25	1,520,937	June.	1894	1.00
5	** Alpha Cons., g. s.	Nev.	105,000	105,000	1	316,050	Nov.	1898	.08
6	** Alta, s	Nev.	216,000	108,000	2	3,670,310	Mar.	1898	.05
7	American Quartz, g	Cal.	1,000,000	100,000	10	1,000	Feb.	1897	.01
8	Anchor, g. s. l	Utah.	1,500,000	150,000	10	560,000	Aug.	1893	.20
9	Andes, g	Nev.	300,000	100,000	3	1,200,000	Jan.	1899	.05
10	Arnold, c	Mich.	1,500,000	60,000	25	180,000	Jan.	1899	3.00
11	Baliol, g	Cal.	1,000,000	100,000	10	55,000	Mar.	1898	.30
12	** Belcher, s. g	Nev.	312,000	104,000	3	3,525,200	Mar.	1899	.10
13	Belle Isle	Nev.	10,000,000	100,000	100	240,271	July.	1896	.10
14	Benton Con. s	Nev.	10,800,000	108,000	100	587,023	June.	1897	.25
15	**Best & Belcher, g. s	Nev.	302,400	100,800	3	2,580,643	Nov.	1898	.10
16	Bogan	Utah.	1,250,000	125,000	10	26,875	Dec.	1897	.01½
17	Boston & Cp. Ck., g	Co'o.	400,000	200,000	2	20,000	Aug.	1898	.10
18	Brunswick Cons., g	Cal.	500,000	500,000	1	160,000	July.	1897	.03
19	** Bullion, s. g	Nev.	100,000	100,000	1	3,120,000	Nov.	1898	.05
20	Caledonia	Nev.	300,000	200,000	3	3,210,000	ov.	1897	.10
21	Centennial, c	Mich.	2,500,000	100,000	25	460,000	Mar.	1898	3.00
22	Central Eureka, g	Cal.	4,000,000	400,000	10	92,000	Mar.	1899	.02
23	**Challenge Cons, s. g	Nev.	150,000	50,000	3	430,000	Mar.	1899	.05
24	**Chollar, g. s	Nev.	336,000	112,000	3	2,959 800	Jan.	1899	.10
25	**Confidence, g. s	Nev.	74,880	24,960	3	540,126	Nov	1898	.10
26	**Con., Cal. & Va	Nev.	540,000	216,000	2½	678,000	July.	1898	.25
27	**Cons. Imperial, g. s	Nev.	500,000	500,000	1	2,246,000	Nov.	1898	.01
28	**Con. New York	Nev.	100,000	100,000	1	160,500	Nov.	1898	.03
29	**Crown Point, g. s	Nev.	300,000	100,000	3	2,970,000	Nov.	1898	.10
30	Dalton, s. l	Utah.	2,500,000	500,000	5	53,750	Sept.	1898	.00½
31	Dexter	Nev.	1,000,000	200,000	5	88,000	Apr.	1898	.15
32	Diamond Con	Utah.	1,000,000	200,000	5	8,000	Mar.	1899	.04
33	Eagle, g. s	Cal.	500,000	100,000	5	5,000	Dec.	1896	.05
34	Eagle, g. s	Ore.	1,000,000	100,000	10	6,000	Oct.	1898	.01½
35	Emerald	Utah	300,000	300,000	1	3,000	Oct.	1898	.00½
36	Eureka Cons., g. s. l	Nev.	1,000,000	50,000	20	585,000	Sept.	1898	.20
37	Eureka Con. Drift, g	Cal.	500,000	500,000	1	175,000	Feb.	1899	.00½
38	** Exchequer, g. s	Nev.	1,000,000	100,000	1	1,020,000	Dec.	1897	.05
39	Florence	Utah.	1,000,000	200,000	5	500	Mar.	1899	.00¼
40	Four Aces	Utah.	250,000	250,000	1	5,000	Mar	1898	.01
41	Galena	Utah.	1,000,000	100,000	10	10,000	Oct.	1898	.10
42	Geyser, s. l	Colo.	5,000,000	500,000	10	1,125,000	Jan.	1899	.10
43	Gold Belt, g. s	Utah.	500,000	500,000	1	3,012	July.	1896	.00½
44	Golden Fleece Grav. g	Cal.	130,000	130	1000	56,260	Mar.	1897	2.00
45	Gold & Silver Carb	Utah.	500,000	500,000	1	2,500	Mar.	1899	.00¼
46	** Gould & Curry	Nev.	324,000	108,000	3	4,614,350	Dec.	1898	.10
47	Great Eastern, g	Utah.	1,500,000	300,000	5	5,000	Oct	1898	.00½
48	Great Western, q	Cal.	5,000,000	50,000	100	70,526	Mar.	1899	.15
49	Hale & Norcross, g. s	Nev.	11,200,000	112,000	100	5,705,086	Feb.	1899	.15
50	Horse Shoe Bar Cons	Cal.	6,000,000	60,000	100	85,800	Jan.	1899	.05
51	** Julia Con	Nev.	110,000	110,000	1	1,498,800	Jan.	1899	.03
52	Jupiter, g	Cal.	2,000,000	20,000	100	80,000	Feb.	1898	.20
53	** Justice, g. s. c	Nev.	210,000	105,000	2	3,652,000	Feb.	1899	.05
54	Kentuck	Utah.	600,000	300,000	2	30,000	Aug.	1898	.10
55	** Kentuck Cons., s	Nev.	105,000	105,000	1	125,300	June.	1898	.05
56	Lacrosse, g	Colo.	1,000,000	100,000	10	*			
57	Little Pittsburg	Utah.	2,000,000	400,000	5	18,000	Dec.	1898	.01
58	Lower Mammoth	Utah.	150,000	150,000	1	15,000	Oct.	1898	.05
59	Lucky Bill	Utah.	300,000	120,000	2.50	56,400	June.	1898	.01½
60	Marguerite, g	Cal.	500,000	50,000	10	75,000	Feb.	1899	.10
61	May Day	Utah.	100,000	400,000	¼	4,000	Jan	1899	.00¼
62	Mayday, g. s	Cal.	50,000	50,000	1	5,000	May.	1898	.10
63	Mayflower, g	Cal.	1,200,000	60,000	20	6,000	Sept.	1898	.05
64	Merced, g	Cal.	1,500,000	100,000	15	200,000	July.	1896	2.00
65	Meteor, s. l	Utah.	600,000	300,000	2	6,734	Feb.	1899	.01
66	** Mexican, g. s	Nev.	302,400	100,800	3	2,258,720	Nov.	1898	.10
67	Montreal	Utah.	2,500,000	250,000	10	18,125	Jan.	1899	.05
68	Mt. Diablo s	Nev.	5,000,000	50,000	100	150,000	Dec.	1898	.10
69	Morning Star, s	Nev.	1,500,000	150,000	10	32,500	Dec.	1898	.00½
70	Nashville, g	Cal.	115,000	11,500	10	2,000	Sept.	1898	.17
71	North Banner, g. s	Cal.	1,000,000	100,000	10	21,794	Oct.	1896	.02
72	North Belle Isle, s	Nev.	10,000,000	100,000	100	523,074	July.	1896	.10
73	***No. Gould & Curry	Nev.	100,000	100,000	1	375,000	Dec.	1898	.10
74	Northern Light, g	Utah.	2,000,000	400,000	5	80,000	July.	1898	.10
75	**Occidental Cons g s	Nev.	300,000	100,000	3	499,179	Dec.	1898	.10
76	** Ophir, g. s	Nev.	324,000	108,000	3	4,602,508	Sept.	1898	.15
77	Opohonga	Utah.	200,000	100,000	2	1,500	June.	1898	.01
78	Oro Cache, g. s	S. D.	1,250,000	250,000	5	6,250	July.	1893	.00½
79	Osceola, g	Cal.	10,000,000	100,000	100	10,924	Sept.	1898	.01
80	*** Overman, g. s	Nev.	250,400	115,200	2	4,129,690	Dec.	1898	.05
81	Peer, s	Ariz.	10,000,000	100,000	100	215,000	July.	1894	.05
82	Peerless, s	Nev.	10,000,000	100,000	100	410,000	July.	1894	.05
83	Pine Hill, g	Cal.	1,000,000	100,000	10	30,000	July.	1897	.05
84	** Potosi, g. s	Nev.	336,000	112,000	3	2,157,200	Dec.	1898	.10
85	Quicksilver, pref., q	Cal	4,300,000	43,000	100	*			
86	Quicksilver, com. q	Cal	5,700,000	57,000	100	*			
87	Red Mountain, s	Colo.	300,000	60,000	5	22,500	Mar.	1891	.12½
88	Rescue, g	Nev.	100,000	10,000	10	5,000	June.	1898	.10
89	Reward, g	Cal.	64,000	64,000	1	63,680	Nov.	1898	.02
90	Ridge, c	Mich.	500,000	20,000	25	239,939	Feb.	1897	1.00
91	St. Mary, c	Mich.	1,000,000	40,000	25	4,000	July.	1895	.05
92	** Savage, g. s	Nev.	280,000	112,000	2½	7,369,800	Feb.	1899	.10
93	Scorpion, s	Nev.	100,000	100,000	1	445,000	Dec.	1897	.05
94	**Seg. Belcher & M g s	Nev.	200,000	100,000	2	368,000	Nov.	1898	.03
95	Sevier, g. s	Utah.	1,250,000	250,000	5	50,000	April.	1897	.04
96	Shower Con	Utah.	2,000,000	400,000	5	8,000	Mar.	1899	.02
97	**Sierra-Nevada, g. s	Nev.	300,000	100,000	3	6,706,910	Feb.	1898	.20
98	Silver Age, g. s. l	Colo.	2,000,000	200,000	10	*			
99	** Silver Hill, s	Nev.	108,000	108,000	1	2,220,300	May	1898	.05
100	Silver King, s	Ariz.	10,000,000	100,000	100	465,000	Feb.	1899	.25
101	Silver Queen, c	Ariz.	5,000,000	200,000	25	*			
102	Silver State, g	Colo.	700,000	700,000	1	*			
103	Silver State, s. g. l	Utah.	100,000	100,000	1	1,000	Sept.	1897	.00¼
104	Siskiyou Con., s	Cal.	2,000,000	200,000	10	46,000	Apr.	1898	.01
105	South Fork Con	Utah.	50,000	50,000	1	5,000	Mar.	1898	.01
106	Star, g. s	Utah.	1,000,000	200,000	5	7,000	Feb.	1899	.03
107	Success	Utah.	30,000	300,000	0.10	1,500	Feb.	1899	.00¼
108	Sunbeam Cons	Utah.	250,000	250,000	1	23,125	Nov.	1898	.01
109	Tecumseh, c	Mich.	1,000,000	40,000	25	40,000	July.	1897	1.00
110	Temonj, g	Colo.	1,000,000	1,000,000	1	*			
111	Tetro	Utah.	300,000	300,000	1	21,000	Jan.	1899	.01
112	Tombstone, g. s. l	Ariz.	12,500,000	500,000	25	*			
113	Tornado Con., g. s	Nev.	100,000	100,000	1	*			
114	** Union Cons., g. s	Nev.	250,000	100,000	2½	2,633,000	Jan.	1899	.03
115	** Utah Cons., s	Nev.	100,000	100,000	1	475,000	Jan.	1899	.05
116	Victory, g. s	S. D.	1,250,000	250,000	5	2,625	Nov.	1896	.00½
117	West Granite Mt., s	Mont.	500,000	100,000	5				
118	Work, g	Colo.	1,250,000	1,250,000	1				
119	World, g	Colo.	1,500,000	1,500,000	1	*			
120	***Yellow Jacket, g. s	Nev.	360,000	120,000	3	5,788,000	May	1898	.20
121	Yellow Jacket	Utah.	300,000	300,000	1	1,500	Dec.	1897	.00½

G., Gold. S., Silver. L., Lead. C., Copper. B., Borax. * Non-assessable. †The Deadwood previously paid $275,000 in eleven dividends and the Terra $75,000.
§Bodie, Bulwer and Mono transferred to Standard Cons., January, 1897. Previous to consolidation Bodie paid $1,677,572, Bulwer $190,000, Mono $12,500, and Standard $900,000.
** Capitalizat on reduced September, 1898. *** Reincorporat d in September, 1898. §§ The old War Eagle Company paid $240,000 in dividends to July, 1897, and levied $32,500 in assessments.
NOTE.—This table is corrected up to February 28. Correspondents are requested to forward changes or additions so as to reach us before the end of each month.

CHEMICALS, MINERALS, RARE ELEMENTS, ETC.—CURRENT PRICES.

Note.—These quotations are for wholesale lots in New York unless otherwise specified, and are generally subject to the usual trade discounts. This table is revised up to Jan. 30th. Readers of the Engineering and Mining Journal are requested to report any corrections needed, or to suggest additions which they may consider advisable. See also Market Review of Chemicals and Minerals.

	Cust. Meas.	Price.
Abrasives—		
Carborundum, f.o.b. Niagara Falls grains	lb.	$0.15
Powdered	"	.10
Corundum, N. C.	"	.07@.10
Chester	"	.04½@.05
Emery, Turkish flour	"	.03
Grains	"	.05
Naxos flour	"	.03
Grains	"	.05
Chester flour	"	.03
Grains	"	.05
Peekskill flour	"	.01¾
Grains	"	.02½
Crude, Kuluk, best	lg. ton	18.50
Levant, "	"	22.00
Naxos (Greek) best	"	32.00
Pumice Stone, Am. powd.	lb.	.01@.02
Italian, powdered	"	.01¼
Lump, per quality	"	.04@.40
Rottenstone, ground	"	.02½@.03
Lump, according to quality	"	.06@.18
Rouge	"	.17@.30
Tripoli, prepared	sh. ton.	20.00
Acids—Acetic, 30% pure.	lb.	.02¾
30% ch. pure	"	.06¼
80% pure	"	.09
Glacial, pure	"	.11¾
Chem. pure	"	.21
Benzoic, English	"	1.10
German	"	.48
Boracic, pure cryst.	"	.10½@.11
Powdered	"	.11@.11½
Carbolic, cryst. in drums	"	.16
Carbonic, liquid	"	.10
Chromic, crude	"	.22
Chem. pure	"	.40
Absol. ch. pure	"	1.75
Hydrochloric, ch. pure.	"	.08
Hydrofluoric, 30%	"	.03@.04½
48%	"	.05@.06
Best		.25
Nitric, chem. pure	"	.10
Sulphuric, 98%	"	.02
Chem. pure	"	.07
Sulphurous	"	.03½@.05
Tartaric, cryst.	"	.31½@.32
Powder	"	.32@.32½
Alcohol—Grain	gal.	2.44@2.48
Refined wood, 95@97%	"	.75@.80
Purified	"	1.20@1.50
Alum—Lump	100 lbs.	1.65
Powdered	"	2.50
Ground	"	1.75
Chrome, com'l	"	3.50
Aluminum—Nitrate	lb.	1.50
Oxide, com'l	"	.20
Pure	"	.80
Chem. pure	"	1.00
Hydrated	"	.05
Sulphate, pure	"	.02
Ammonia—Aqua, 16°	"	.02½@.03
18°	"	.03@.03¼
20°	"	.03½@.04
26°	"	.05½@.06
Ammonium—		
Bromide, pure	"	.52@.53
Carbonate	"	.07¼@.07½
Muriate, gran., white	"	.05¼
Lump	"	.08¼
Gray	"	.05
Nitrate, white, pure (99%)	"	.09
Antimony—Glass	"	.30@.40
Needle, lump	"	.05@.06
Powdered	"	.07@.08½
Oxide, com'l white, 95%	"	.20
Com'l white, 99%	"	.35
Sulphuret, com'l	"	.16
Arsenic—White	"	.04@.04¼
Red	"	.07¾@.08
Asphaltum—California		
Ventura	sh. ton	32.00
Cuban, best	"	40.00
Common	"	20.00
Egyptian	"	130.00
Trinidad, refined	"	40.00
Gilsonite, Utah, ordinary	"	65.00
Select	"	75.00
Barium—Carbonate, lump, 80@90%	"	25.00@27.50
92@98%	"	25.25@29.00
Powdered, 80@90%	lb.	.01¾@.02
Chloride, com'l	"	.02¼
Chem. pure cryst	"	.05
Nitrate, com'l, pow'd.	"	.07
Pure, pow'd	"	.07@.08
Oxide, com'l, hyd. cryst	"	.18@.22
Hydrated, pure cryst.	"	.25
Pure, powd	"	.27
Sulphide	"	.40
Sulphate	"	.02¼@.02¾
Barytes—Crude, No. 1	sh. ton	9.00@10.00
No. 2	"	8.00@8.25
No. 3	"	7.75@8.00
Prime White	"	12.00@15.00
American, floated	"	12.50@18.00
Foreign, floated	"	19.50@21.00
Bauxite—Georgia, f.o.b. cars, first grade	lg. ton	3.25@4.50
Second grade	"	3.00
Alabama, f. o. b. cars Rock Run	"	3.85
Benzole—90%	gal.	1.00@1.10
Bismuth—Oxide, hydr.	lb	2.25@2.56
Nitrate cryst	oz.	.09
Bitumen	lb.	.03½@.05
Bone Ash	"	.02¾@.03½
Borax—		
Cryst. and pow'd	"	.07@.07¼
Calcined	"	.19
Bromine—Bulk	"	.45
Cadmium—		
Metallic	"	1.90@2.00
Sulphide	"	1.90@2.25
Sulphate	"	2.25@2.50
Calcium—Carbide, in ton lots, f. o. b. Niagara Falls, N.Y.	lb.	.03@.04
Acetate, pure white	"	.10
Carbonate, ppt	"	.05
Chem. pure	"	.75
Chloride	100 lbs.	.90
Sulphite	lb.	.05
Cement—		
Portland, Am., 400 lbs.	bbl.	1.95@2.00
Foreign	"	1.75@2.50
"Rosendale," 300 lbs.	"	.95
Sand cement, 400 lbs.	"	1.85@1.95
Slag cement, imported	"	1.65
Ceresine—		
Orange and Yellow	"	.10@.10¼
White	"	.11¼@.13½
Chalk—Com'l, lump	sh. ton	2.00@2.10
Ppt	lb.	.04½
French	100 lbs.	.30@.35
Chlorine—Liquid	lb.	.30
Water	"	.15
Chrome Ore—(50% chrome) ex ship	lg. ton	24.50
Clay, China—Am. com.	"	8.00
Am. best	"	9.00
English, common	"	11.00@12.50
Best grade	"	15.00
Fire, ground, f.o.b. Jersey City, N. J.	"	4.00@5.00
Slip Clay, f.o.b. Albany	"	3.00
Cobalt—Carbonate	lb.	1.50
Nitrate	"	1.30
Oxide—Black	"	1.76
Gray	"	2.25
Smalt	"	.25@.30
Chem. pure	"	5.00
Copperas	100 lbs.	.60@62½
Copper—		
Carbonate	lb.	.14@.16
Chloride	"	.25
Nitrate, crystals	"	.35
Oxide, black	"	.16@.20
Ppt., pure	"	.50
Red	"	.16
Ppt., pure	"	.35@.40
Cream of Tarter—crys.	"	.23¼@.23½
Granulated	"	.23¼@.23¼
Powdered	"	.23¾@.24
Cryolite		.08½
Explosives—		
Blasting powder, A	"	.08½
Blasting powder, B	"	.05@.05½
"Rackarock," A	"	.25
"Rackarock," B	"	.18
Judson R.R. powder, by carload	"	.10
Dynamite, (40% nitroglycerine)	"	.15
(50% nitro-glycerine)	"	.17
(60% nitro-glycerine)	"	.19
(75% nitro-glycerine)	"	.23
Glycerine, for nitro (32 2-10° Be.)	"	.10½@.12
Nitro-Benzole	"	.14@.15
Feldspar—Ground	sh. ton	6.75@7.75
Flint—(See Silica).		
Fluorspar—Am. lump	"	5.50
Gravel	"	5.50@7.00
Crushed	"	5.50@7.50
Ground	"	11.00
Extra fine ground	"	12.50
Foreign, lump	"	8.00@12.00
Ground	"	11.50@14.00
Fuller's Earth—Lump	100 lbs.	.75
Powdered, in bags	"	.82½
Graphite—(See Plumbago).		
Gypsum—		
Am. gr'd (terra alba)	sh. ton	7.00
Fertilizer	"	4.50
Rock	lg. ton	4.00
English and French	"	14.00@16.00
Infusorial Earth—Ground, best qualities	"	20.00@.40.00
Iodine—Crude	100 lbs.	2.55
Resublimed	"	2.90@2.95
Iron—Chromate	lb.	.03@.10
Muriate	"	.05
Nitrate, com'l	"	.02
Pure	"	.04
Oxide	"	.02@.12
Scale	"	.01@.03
Kaolin—(See Clay, China).		
Kanit	lg. ton	8.80@9.05
Kryolith—(See Cryolite.)		
Lead—Acetate		
White, broken	lb.	.07
Com'l, broken	"	.06¼
White, gran	"	.08¼
Nitrate, com'l	"	.06½@.06¾
Chem. pure	"	.35
Lime—Bldg., ab. 250 lbs	bbl.	.65@.75
Finishing	lb.	.75@.80
Magnesite—		
Crude, lump	lg. ton	7.00@12.00
Calcined, foreign	"	20.00@35.00
Domestic	"	12.00@15.00
Bricks	"	45.00@65.00
Magnesium—		
Metallic, 'ingots (Ger).	kg.	5.95@6.90
Powdered (Ger.)	"	6.19
Ribbon or wire (Ger.)	"	10.00
Carbonate	lb.	.10
Chloride, com'l	"	.01¾
Fused	"	.20
Nitrate	"	.60
Manganese—		
Crude, powdered, 70@75% binoxide	"	.01¼@.01½
75@85% binoxide	"	.01½@.02½
85@90% binoxide	"	.02¼@.03¼
90@95% binoxide	"	.03¼@.05½
Carbonate	"	.16@.20
Chloride	"	.04
Ore, 50%	unit	.21@.22½
Marble—		
Flour	sh. ton	8.08
Mercury—Bichloride	Cases.	.59@.60
Bisulphate	"	.41
Mica—Ground	"	.04@.06
Sheets, according to size and quality.		
Mineral Wool—F. o. b. Stanhope, N. J.:		
Slag, ordinary	100 lbs.	1.00
Selected	"	1.67
Extra	"	4.00
Rock, ordinary	sh. ton	37.00
Selected	100 lbs.	4.00
Extra	"	7.00
Monazite—92%	sh. ton	140.00
Nickel—		
Oxide, black No. 1	lb.	1.00
Black No. 2	"	.60
Green, No. 1	"	1.00
No. 2	"	.60
Oils—Black, reduced 29 gr., 25@30%	gal.	.07@.07½
Black reduced 29 gr. 15 cold test	"	.08@.08½
Black reduced 29 gr. zero	"	.11@.12
Black reduced summer	"	.06½@.07
Smith's Ferry, 33@34 gr.	"	.07½@.08½
West Virginia, 29 gr.	"	.22@.24
Cylinder, dark steam ref	"	.08@.13
Dark filtered	"	.11@.16
Light filtered	"	.13@.15
Extra cold test	"	.21@.25
Gasolene, 86°	"	.14@.15
88°	"	.16@.17
90°	"	.19@.20
Neutral filtered, lemon, 33@34 gr.	"	.13@.18½
White, 35@34 gr.	"	.21@.23
Wool grade, 32 gr.	"	.11@.14
Naphtha, crude, 68@72°	"	.10@.10½
Paraffine, high viscosity	"	.20@.25
23½@24 gr.	"	.09¼@.09¾
25 gr.	"	.08¼@.08½
28@32 gr.	"	.07¼@.07¾
Red No. 1	"	.08¾@.09¼
No. 2	"	.08¼@.08¾
Linseed, domestic raw	"	.41@.42
Boiled	"	.43@.44
Calcutta, raw	"	.54
Graphite, lubricating, Am. dry	lb.	.10
In oil	"	.12
Axle grease	"	.08½@.10
Wood grease	"	.05@.06
Ozokerite—Foreign	"	.06@.08
Paints and Colors—		
Benzine, Sumatra	"	.35@.40
Marbled	"	.27@.28
Chrome green, common	"	.05@.06
Extra	"	.14½@.15
Yellow, common	"	.10
Best	"	.25
Silica Graphite, thick	"	.12
Thinned	gal.	1.15
Lampblack—Com'l	lb.	.03@.05
Refined	"	.08@.10
Calcined	"	.12@.20
Fine spirit	"	.20@.35
Litharge, Am. powd.	"	.04¾@.05¼
English flake	"	.07¾@.08
Metallic, brown	"	.05½
Red	"	18.00@20.00
Ocher, Am. best	sh. ton	15.00
Dutch, washed	lb.	.04¾@.05
French, washed	"	.01@.01¾
Orange mineral, Am.	"	.07½@.08
Foreign, as to make	"	.08½@.10¾
Paris green, pure	"	.12@.14
Red lead, American	"	.05½@.06
Foreign	"	.07½@.08
Shellac, D. C.	"	.28@.30
Native	"	.16@.17
Turpentine, spirits	gal.	.30@.30½
Ultramarine, best	lb.	.25
Vermilion, Amer. lead	"	.14@.16
Quicksilver, bulk	"	.59
Chinese	"	.65@.80
English, imported	"	.60@.95
Artificial	"	.12@.20
White lead, Am., dry	"	.04½@.04¾
In oil	"	.05½@.06
English, in oil	"	.07¼@.08¼
Whiting, common	100 lbs.	.35@.40
Gilders	"	.45@.50
Zinc white, Am., ex. dry	lb.	.03¾@.04½
American, red seal	"	.04¾@.05¼
Green seal	"	.05½@.06¼
Foreign, red seal, dry	"	.07¾@.08½
Green seal, dry	"	.08½@.09¾
Pitch—Coal tar	gal.	.08
Plumbago—American, pulverized, f. o. b., Providence, R. I.	sh. ton	30.00
Lump	"	8.00
German, lump	100 lbs.	.95
Pulverized	lg. ton	16.50
Ceylon, crude	lb.	.01¼@.04¼
Pulverized	"	.02@.05
Italian, pulv	"	.01½
Potash—		
Caustic	"	.04@.05
Potassium—		
Metallic, in balls (Ger).	kg.	17.85
Bicarbonate cryst	lb.	.08¾
Powdered or gran	"	.12
Bichromate	"	.09½@.09¾
Bromide, bulk	"	.44@.45
Carbonate	"	.03@.04
Chromate	"	.35
Cyanide (98@99%)	"	.28
Double manure salts, 48@53% (basis 48%)	100 lbs.	1.03
Muriate, 80@85% (basis 80%)	"	1.78
Permanganate, pure cr.	lb.	.15½@.16
Chem. pure	"	.34
Potassium—Silicate	lb.	.06
Prussiate, yellow	"	.16@.17
Red	"	.37@.40
Sulphate, 90@95% (basis 90%)	100 lbs	1.99½
Sulphide, com'l	"	.10
Quartz—(See Silica).		
Rosin—Common	gal.	.10
Best	"	.16
Saltpeter—Crude	lb.	.04¼@.04¾
Double refined	"	.04½@.05
Silica—		
Ground quartz	sh. ton	6.75@8.00
Best	"	12.00
Lump quartz	"	2.50@4.00
Silver—Chloride	oz.	.65
Nitrate	"	.39@.41½
Oxide	"	.85@1.10
Slate—Flour	sh. ton	7.50
Sodium—Metallic	lb.	.75
Acetate, com'l	"	.03¼
Chem. pure	"	.05¾
Bichromate	"	.07¾@.08
Bisulphite, com'l	"	.01½@.02¼
Bromide	"	.49@.50
Chlorate, com'l	"	.09¾@.10
Hyposulphite, com'l	100 lbs.	1.60
Nitrite	lb.	.07½@.07¾
Peroxide	"	.45
Silicate, com'l, 40°	"	.01@.01¼
Sulphate, gran., puri'd.	"	.03
Tungstate, com'l	"	.35
Pure	"	.50
Strontium—Carb., ppt.	"	.13@.14
Nitrate	"	.07½@.07¾
Sulphur—Roll	100 lbs.	2.00
Flour	"	2.20@2.25
Talc—N. C No. 1	sh. ton	15.00@15.50
No. 2	"	10.00@12.00
N. Y., Fibrous	"	8.00@9.00
French, best	"	20.00
Italian, best	"	20.00
Tin—Chloride	lb.	.11@.13
Crystals	"	.18@.18½
Muriate	"	.10
Oxide, white, ch. pure	"	.28½@.35
Uranium—Oxide	"	1.80@2.00
Zinc—Metallic, ch. pure	"	.06¾
Carbonate	"	.15
Chloride	"	.06
Dust	"	.06¾.08
Sulphate	"	.02@.02¼

THE RARE ELEMENTS.

Prices given are at makers' works in Germany, unless otherwise noted.

	Cust. Meas.	Price.
Barium—Amalgam	grm.	$1.19
Electrol	"	5 71
Beryllium—Powder	"	5.95
Crystals	"	9.04
Nitrate (N Y.)	oz.	2.50
Boron—Amorphous, pure	grm	.19
Crystals, pure	"	1.43
Nitrate (N. Y.)	lb.	1.50
Calcium—Electrol	"	4.28
Cerium—Fused	grm.	2.02
Nitrate (N. Y.)	lb.	28.00
Chromium—Fused	kg.	5.95
Pure powder	"	1.79
Chem. pure cryst.	grm.	.19
Cobalt—(98@99%)	kg.	5.35@5.71
Pure	"	30.94
Didymium—Powder	grm.	3.81
Nitrate (N. Y.)	oz.	4.00
Erbium	grm.	3.09
Nitrate (N. Y.)	oz.	3.00
Gallium	grain	9.52
Germanium—Powder	grm.	33.32
Fused	"	35.70
Glucinum—Powder	"	5.95
Crystals	"	9.04
Nitrate (N. Y.)	lb.	2.50
Indium	grm.	4.05
Iridium	"	1.19
Lanthanum—Powder	"	4.28
Electrol, in balls	"	9.04
Nitrate (N. Y.)	oz.	3.50
Lithium	grm.	2.38
Nitrate (N. Y.)	oz.	.60
Molybdenum—Powder	kg.	2.62
Fused, electrol	100 grms.	15.47
Niobium	grm.	3.81
Osmium	"	.95
Palladium	"	.95
Rhodium	"	2.87
Rubidium—Pure	"	4.76
Ruthenium—Pure	"	1.55
Selenium—Com'l powder	kg	26.18
Sublimed powder	"	35.70
Sticks	"	28.56
Silicium—Amorphous	100 grms.	2.87
Crystals, pure	"	7.14
Strontium—Electrol	grm.	6.19
Tantalium—Pure	"	3.57
Tellurium—Ch. p. sticks	100 grms.	11.90
Powder	"	9.52
Thallium	kg.	21.80
Thorium—Metallic	grm.	7.85
Nitrate 49@50% (N. Y.)	lb.	7.50@8.00
Titanium	grm.	.71
Uranium	"	.48
Nitrate (N. Y.)	oz.	.25
Vanadium—Fused	grm.	1.19
Wolfram—Fused	100 grms.	22.80
Powder, 95@98%	kg.	2.38
Chem. pure	"	7.14
Yttrium	grm.	3.33
Nitrate (N. Y.)	oz.	4.00
Zirconium—Com'l	kg.	119.00
Pure	grm.	.71
Nitrate (N. Y.)	oz.	1.00

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DIVIDENDS.

ANACONDA COPPER MINING COMPANY,
15 BROAD STREET,
NEW YORK, March 24, 1899.
DIVIDEND No. 7.

Amounting to $1.25 per share on the capital stock of this Company, has this day been declared, payable May 3d, 1899, to stockholders of record on April 21st, 1899.

Transfer books will close April 21st and reopen May 4th, 1899.

H. E. H. MOLLER, Asst. Secretary.

JAMISON MINING COMPANY.
ROOMS 50 AND 54, NO. 120 SUTTER ST.,
SAN FRANCISCO, CAL., March 21st, 1899.
SEMI-ANNUAL DIVIDEND NO. 3.

At their meeting of March 21st, 1899, it was resolved by the Board of Directors of the Jamison Mining Company to pay to the stockholders of the company from the surplus funds in the treasury a dividend of Eleven Thousand Seven Hundred Dollars ($11,700), being THREE (3) CENTS per share on the capital stock of the Company.

The dividend will be payable at the office of the Company on the 15th day of April, 1899; to all stockholders of record on the 5th day of April, 1899. Transfer books will be closed at the close of business on the 5th day of April, and reopened on the morning of the 17th of April, 1899. SAM. W. CHEYNEY, Secretary.

NEW YORK AND HONDURAS ROSARIO MINING COMPANY,
No. 18 BROADWAY, NEW YORK, April 3, 1899.
DIVIDEND NO. 53.

The Trustees of the Company have this day declared a dividend of TEN CENTS per share on its capital stock, payable April 20th, 1899. Transfer books will be closed from April 10th to 20th.

S. JACOBY, Treasurer.

Sulphuric Acid Plants; Five tons daily and up.
Pyrites Plants for Sulphite Pulp Manufacturers
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WANTED.

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WANTED

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PARTS II. and III. will be issued during this year, so that the work will be completed by the end of 1899.

PYRITIC SMELTER FOR SALE.

By virtue of a certain order entered in the District Court of Ouray County on the 4th day of March, 1899, the undersigned offer for sale, privately, the whole of the plant of the **CLEOPATRA SMELTER,** situated at Ouray, Ouray County, Colorado, including all tools, appliances, compete assay outfit, as well as certain limestone claims, to wit, Lots 1, 2, 3, 4, 5, 6, 7 and 8 in Block 38, in the City of Ouray and the Cleopatra and Anthony lode mining claims and the Spike Placer Mining Claim contiguous to the Smelter plant; the whole comprising a complete and going concern. The above property will be held for bids at private sale until Saturday, May 13, 1899, and if no suitable bids for said property shall be received on or before said date, the same will be put up at public auction on said May 13th, 1899, and sold to the highest and best bidder for cash at the Smelter. This offers an excellent opportunity to anyone interested in such a business. For terms and all other particulars address **Geo. R. Hurlburt** or **Chas. W. Haskins,** Assignees, Ouray, Colorado.

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